

# WEB DEVELOPMENT AND DATABASE ADMINISTRATION Level – I

**Based on March 2022, Curriculum Version 1** 



# Module Title: - Operate Spreadsheet applications Module code: EIS WDDBA1 M07 0322 Nominal duration: 48Hour

Prepared by: Ministry of Labour and Skill

September, 2022 Addis Ababa, Ethiopia

Page 1 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills		September, 2022
	Author/Copyright		· · ·



# **Table of content**

Contents		Table of content	
Ackn	owledgment		
Acronyms		Error! Bookma	rk not defined.
ntroduction to t	he module		6
This Module cov	ers the unit		7
_earning Object	ive of the Module		7
Module Instructi	on		7
		adsheet	
		s and enter numbers, text and sym	
1.3 Enter sir	mple formula and func	tion use cell reference	17
1.5 Edite co	lumn and row within tl	he spreadsheet	
		nent data in Excel	
Jnit Two: Cust	omize basic settings	5	
2.1 Adjust p	age layout		
2.2 O <sub>I</sub>	pen and view different	toolbars	
U	0		
2.4 Change a	alignment and line space	cing Text alignment	
ť	0		
		currently	
Self -check	2		
Unit Three: For	mat spreadsheet		
3.1 Use forn	nat features and tools		
3.2 Insert he	eaders and footers		57
Operation tit	tle 3		62
1 Julie 17			<u>^</u>
•	-	art in spreadsheet heet	
Page 2 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



<b>4.2 Create a chart using selected data in the spreadsheet</b>	
<b>Operation title 4</b> import an object into spreadsheet	
Unit Five: Print spreadsheet	
5.1 Previewing spreadsheet	
5.2 Selecting basic printer options to printing spreadsheet	
Self check-5	
Reference	

Page 3 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



# Acknowledgment

**Ministry of Labor and Skills** wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Page 4 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



# Acronyms

1.	MS-Excel	Microsoft Excel
2.	PC	Personal computer
3.	CD-R	Compact disc-recordable
4.	USB	Universal Serial Bus
5.	ICT	Information communication technology
6.	WDDA	Web development and database
		administration
		Teaching, Training and Learning
7.	TTLM	Materials

Page 5 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



# Introduction to the module

A **spreadsheet** or **worksheet** is a file made of rows and columns that help sort, organize, and arrange data efficiently, and calculate numerical data. What makes a spreadsheet software program unique is its ability to calculate values using mathematical formulas and the data in cells. An example of how a spreadsheet may be utilized is creating an overview of your bank's balance. spreadsheet and worksheet mean the same thing. However, most people only refer to the program as a spreadsheet program and the files it creates as spreadsheet files or worksheets.

Page 6 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



# This Module covers the unit

- Create spreadsheets
- Customize basic settings
- Format spreadsheet
- Insert chart in spreadsheet

#### Learning Objective of the Module

- Print spreadsheet
- Can Create spreadsheets
- Apply Customize basic settings on spreadsheet
- Format spreadsheet
- Insert chart in spreadsheet
- Can Print spreadsheet

#### **Module Instruction**

For effectively use these modules trainees are expected to follow the following module instruction:

- 1. Read the specific objectives of this Learning Guide.
- 2. Follow the instructions described below.
- 3. Read the information written in the information in respectively.

4. Accomplish the "Self-check 1, Self-check 2, Self-check 3 and Self-check 4, Self-check 5,

Self-check 6 and self-check7" respectively.

- 5. If you earned a satisfactory evaluation from the "Self-check" proceed to "Operation Sheet.
- 6. Do the "LAP test" at the end page (if you are ready).

Page 7 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills		September, 2022
	Author/Copyright		



# **Unit one: Create spreadsheets**

This learning unit is developed to provide the trainees the necessary information regarding the following content coverage and topics:

- Purpose and function of spreadsheet
- Open spreadsheet application, create spreadsheet files and enter numbers, text and symbols into cells.
- Enter simple formulas and functions use cell reference
- Correct formulas
- Edit columns and rows within the spreadsheet
- Use the auto-fill function to increment data
- Save spreadsheet to directory or folder

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Open spreadsheet application, create spreadsheet files and enter numbers, text and symbols into cells according to information requirements
- Enter simple formulas and functions using cell referencing where required
- Correct formulas when error messages occur
- Edit columns and rows within the spreadsheet
- Use the auto-fill function to increment data where required
- Save spreadsheet to directory or folder

Page 8 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



## **1.1 Purpose and Function of spreadsheet**

#### 1.1.1 Purpose of spread sheet

The purpose of a spreadsheet is to organize and calculate information. Spreadsheets are utilized by many different businesses and organizations to perform a variety of tasks. The most commons tasks performed by spreadsheet software include functions, computations, statistical analysis, and formatting. This text will focus on excel when discussing spreadsheets. Spreadsheets are an essential business and accounting tool. They can vary in complexity and can be used for various reasons, but their primary purpose is to organize and categorize data into a logical format. Once this data is entered into the spreadsheet, you can use it to help organize and grow your business.

#### 1.2. 1 Function of spread sheet

A spreadsheet is a file that exists of cells in rows and columns and can help arrange, calculate and sort data. Data in a spreadsheet can be numeric values, as well as text, formulas, references and functions.

A spreadsheet is a computer program that can capture, display and manipulate data arranged in rows and columns. Spreadsheets are one of the most popular tools available with personal computers. A spreadsheet is generally designed to hold numerical data and short text strings. In a spreadsheet program, spaces that hold items of data are called spreadsheet cells. These can be renamed to better reflect the data they hold and can be cross-referenced through row numbers and column letters.

Below are some other popular uses of spreadsheets.

#### A. Finance

Spreadsheets are ideal for financial data, such as your checking account information, budgets, taxes, transactions, billing, invoices, receipts, forecasts, and any payment system.

#### **B.** Forms

Form templates can be created to handle inventory, evaluations, performance reviews, quizzes, time sheets, patient information, and surveys.

#### C. School and grades

Page 9 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills		September, 2022
	Author/Copyright		1 7



Teachers can use spreadsheets to track students, calculate grades, and identify relevant data, such as high and low scores, missing tests, and students who are struggling.

#### **D.** Lists

Managing a list in a spreadsheet is a great example of data that does not contain numbers, but still can be used in a spreadsheet. Great examples of spreadsheet lists include telephone, to-do, and grocery lists.

#### E. Sports

Spreadsheets can keep track of your favorite player stats or stats on the whole team. With the collected data, you can also find averages, high scores, and statistical data. Spreadsheets can even be used to create tournament brackets.

# **1.2** Open, create spreadsheet files and enter numbers, text and symbols into cells

#### 1.2.1 Open spreadsheet

Excel is a **spreadsheet program** that allows you to **store**, **organize**, and **analyze information**. While you may believe Excel is only used by certain people to process complicated data, anyone can learn how to take advantage of the program's **powerful features**. Whether you're keeping a budget, organizing a training log, or creating an invoice, Excel makes it easy to work with different types of data.

Start  $\rightarrow$  All Application  $\rightarrow$  Microsoft Office  $\rightarrow$  Microsoft Excel

Page 10 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



=	O Cortana	Productivity		
	D Daum		•3 • <b>*</b>	See all your mail in one
	E	Office	S 🐢 🖅	place Mail
	X Excel	Once		I Man
	F	<u></u>		$\overline{\uparrow}$
	Feedback Hub	Microsoft Edge	Photos	
	ڬ Firefox	Explore		
	Foxit Reader			
	G		$\downarrow$	$\downarrow$
	🧖 Get Help	Microsoft Store		
Ð	🧿 Google Chrome			7 7 7
	Groove Music	$\downarrow$	$\downarrow$	* * *
	н			Play
23	Hard Disk Sentinel			
- - 				
	📠 Imo Messenger			
С	Internet Download Manager			
==	P Type here to search	0	🗆 🖬 💽	💼 💼

Fig1.1 window taskbar

When you open Excel 2016 for the first time, the Excel Start Screen will appear. From here,

you'll be able to create a new workbook, choose a template, and access

#### your recently edited workbooks.

From the Excel Start Screen, locate and select Blank workbook to access the Excel interface.



Fig1.2 Excel Start Screen

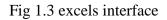
Click the buttons in the elbow to become familiar with the Excel interface.

Page 11 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
	Author/Copyright		Version: 1



**Open** Excel and locate the parts of the Excel window .

		Book1 - Excel		œ –	o ×
File Insert Page Layout	Formulas Data Review	View 🖓 Tell me what you want			in 🔗 Share
Box		The Ribbon		<ul> <li>∑ * A Z ▼ Z     <li>Sort &amp; Find &amp; Fin</li></li></ul>	
A1 - ! × ~ fr					
	D E F	G H Column Label	к с	M N	0
Selected	C.	lumn	F	ormula Bar	
		4			
	ow >	·			_
Row		5			
Label		Cell	Scroll Bar	rs D	,
				Viet	~
1					
2				Too	ls 🖌
3			L L	Too	Is
1 2 3 4 5 5 5 8 heet1 (•)	Worksheet	s i			Is



- Name Box: Displays the currently selected sell.
- **Formula Bar**: Displays the number, text, or formula that is in the currently selected cell, and allows you to edit it. It behaves just like a **text box**.
- Selected Cell: The selected cell has a dark border around it.
- **Column**: Columns run vertically (top to bottom).
- **Column Label**: Identifies each column with a letter. Clicking on a column label selects the entire column.
- **Row**: Rows run horizontally (left to right).
- **Row Label**: Identifies each row with a number. Clicking on a row label selects the entire row.
- Cell: The intersection of a row and column.
- **Worksheets**: The worksheets contained in the workbook are displayed at the bottom-left of the screen. Click on a worksheet to view it.
- Scroll Bars: Used to view other parts of a worksheet when the entire worksheet cannot fit on the screen.
- View Tools: See Status Bar next

Page 12 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



#### **1.2.2 Open spreadsheet To create a new blank workbook:**

1. Select the File tab. Backstage view will appear.



#### Fig1.4 file tab

2. Select New, then click Blank workbook.

E	Book1 - Excel
Info	New
New	
Open	Search for online templates
Save	Suggested searches: Business Personal Industry Small Business Calculat
Save As	A B C
Print	
Share	Take a
Export	5 Blank workbook tour
Publish	7     Blank workbook     Welcome to Excel     F
Close	

#### Fig 1.5 Blank workbook

3. A new blank workbook will appear.

Page 13 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



#### To open an existing workbook:

In addition to creating new workbooks, you'll often need to open a workbook that was previously saved.

1. Navigate to Backstage view, then click Open.

$\langle \langle \rangle$	
L martificati	
T-J-ervor	
Open	
Same	
Same As	
Print	

#### Fig 1.6 backstage view

2. Select Computer, then click Browse. Alternatively, you can choose OneDrive to open files stored on your OneDrive.

Open							
- Recent							
OneDrive - Personal javier.flores838@gmail.com							
Other Web Locations							
This PC							
Add a Place							
Browse 😡							

Fig 1.7 save location

3. The Open dialog box will appear. Locate and select your workbook, then click Open.

Page 14 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



Vpen	>	×
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\Box$ $\Rightarrow$ This PC $\Rightarrow$ Documents $\Rightarrow$ Javy's Documents	✓ ♂ Search Javy's Documents	]
Organize 🔻 New folder		)
Microsoft Excel   ConeDrive   This PC   Desktop   Documents   Downloads   Movies   Music   Pictures   Local Disk (C:)		
File name: home loan comparison	✓ All Excel Files ✓	
	Tools 👻 Open 🔽 Cancel	

Fig 1.8 open dialog box

#### 1.2.3 Enter numbers, text and symbols into cells

- 1. Click cell location A2 on the worksheet.
- 2. Type the word **Month**.
- 3. Press the RIGHT ARROW key. This will enter the word into cell A2 and activate the next cell to the right.
- 4. Type **Unit Sales** and press the RIGHT ARROW key.
- 5. Repeat step 4 for the words **Average Price** and then again for **Sales Dollars**

×   [	C	u -   <del>-</del>				E	Excel Ob	ojective 1.0
F	ile Ho	ome Insert	Page Layout	Formulas	Data P	Review	View	
		Calibri	· 11 ·	A* A* =	= _		-	General
Past	te 🦪	BIU		- <u>A</u> - =			•== +	\$ - %
Clipb	oard 🕞		Font	5	Alignn	nent	Г <u>ы</u>	Num
	C2	- 6	<i>f</i> ∗ Averag	ge Price 🔍				
	A	B	С	D	E	F		G
1						Content		
2	Month	Unit Sales	Average P S	ales Dollars	ce	appears	here in t	he formula.
З			1					
4					e word Price the column		row.	

Figure 1.9 Entering Column Headings into a Worksheet

Page 15 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



- 1. Click cell location B3.
- Type the number 2670 and press the ENTER key. After you press the ENTER key, cell B4 will be activated. Using the ENTER key is an efficient way to enter data vertically down a column.
- Enter the following numbers in cells B4 through
   B14: 2160, 515, 590, 1030, 2875, 2700, 900, 775, 1180, 1800, and 3560.
- 4. Click cell location C3.
- 5. Type the number **9.99** and press the ENTER key.
- 6. Enter the following numbers in cells C4 through

C14: 12.49, 14.99, 17.49, 14.99, 12.49, 9.99, 19.99, 19.99, 19.99, 17.49, and 14.99.

- 7. Activate cell location D3.
- 8. Type the number 26685 and press the ENTER key.
- 9. Enter the following numbers in cells D4 through

D14: 26937, 7701, 10269, 15405, 35916, 26937, 17958, 15708, 23562, 31416, and 53370.

10. When finished, check that the data you entered matches

	ію на	≌ -   <del>-</del> ome Insert	Page Layou	t Formulas	: Data	
	- <del>2</del> 6	Calibri	- 11		=	
Past				2		
-		B Z U -				
Clipb	board Ta		Font	1.54	Ali	1-
	A1		r			
	A	в	C	D	E	
1						
2	Month	Unit Sales	Average P	Sales Dolla	irs	
з		2670	9.99	26685	-	
4		2160	12.49	26937		
5		515	14.99	7701		
6		590	17.49	10269		
7		1030	14.99	15405		Numbers have been
8		2875	12.49	35916		entered without
9		2700	9.99	26937		symbols such as
10		900	19.99	17958	(	dollar signs or commas.
11		775	19.99	15708		
12		1180	19.99	23562		
13		1800	17.49	31416		
14		3560	14.99	53370		
15						
16						
17						
18						
19						
1-4 4	P PI SI	leet1 Shee	tz / Sheeta	3 / 200/		
			Fig 1.	10 Enter data		

Page 16 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



# **1.3 Enter simple formula and function use cell reference**

#### **Create formulas**

Formulas are one of the most commonly used features of Excel. They can be used to carry out simple addition and subtraction or far more complex mathematical calculations Mathematical operators

Excel uses standard operators for formulas, such as a plus sign for addition (+), a minus sign for subtraction (-), an asterisk for multiplication (\*), a forward slash for division (/), and a caret (^) for exponents.



All formulas in Excel must begin with an equals sign (=). This is because the cell contains, or is equal to, the formula and the value it calculates.

The order of operations

Excel calculates formulas based on the following order of operations:

- 1. Operations enclosed in parentheses
- 2. Exponential calculations (3<sup>2</sup>, for example)
- 3. Multiplication and division, whichever comes first
- 4. Addition and subtraction, whichever comes first

A mnemonic that can help you remember the order is PEMDAS,

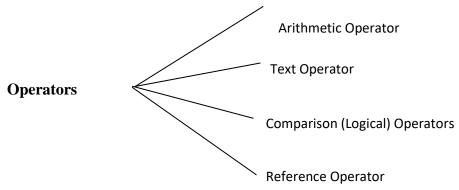
or Please Excuse My Dear Aunt Sally.

Click the arrows in the slideshow below to learn how the order of operations is used to calculate formulas in Excel.

Page 17 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



<u>Operators</u> – Operator is a sign or symbol that specifies the type of calculation such as; Addition (+), Subtraction (-) and Multiplication (\*).



Arithmetic	Operators
------------	-----------

Operators	Symbol	Priority
Bracket operator	()	1 <sup>st</sup>
Exponential	٨	2 <sup>nd</sup>
Multiplication Division	*,/	3 <sup>rd</sup>
Addition, Subtraction	+, -	4 <sup>th</sup>

**Text Operators** (&) :-is an ampersand symbol that used to concatenate or connect two pieces of text values in to a single combined text value. i.e the two text operands should be enclosed with double quotation marks.

Example "Micro" & "Soft" produce the concatenate word "Microsoft"

**Comparison or Logical Operators is** using comparison operators you can compare two or more operands and produce the logical value True or False.

Page 18 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



<u>Operators</u>	Symb	<u>ools</u>
- Equal to	:	=
- Grater than		>
- Less than		<
- Greater than or equal than		>=
- Less than or equal to		<=
- Not equal to		<>

Reference Operator - References are actual cell address in the worksheet.

#### The basic MS-Excel reference operators are;

: (Colon) – a range reference that refers all cells or sheets between and including the two references specified.

, (Comma) – a union operator that combines multiple non-adjacent references in to one references.

**Single Space** – an intersection operator that produces one reference from the cells or ranges that have references in common.

<u>!(Exclamation Mark)</u> – Used to separate sheet names from cell references.

There are two types of cell references: **relative** and **absolute**. Relative and absolute references behave differently when copied and filled to other cells. Relative references **change** when a formula is copied to another cell. Absolute references, on the other hand, remain **constant** no matter where they are copied.

#### A. To create and copy a formula using relative references:

In the following example, we want to create a formula that will multiply each item's **price** by the **quantity**. Instead of creating a new formula for each row, we can create a single formula in cell **D4** and then copy it to the other rows. We'll use relative references so the formula calculates the total for each item correctly.

Page 19 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
	Author/Copyright		Version: 1



1. Select the **cell** that will contain the formula. In our example, we'll select cell **D4**.

D4	1 * : × ~ <i>f</i> e				
	A	в	С	D	E
з			QUANTITY	LINE TOTAL	
-4	Empanadas: Beef Picadillo	\$2.99	15	-	
5	Empanadas: Chipotle Shrimp	\$3.99	10		
6	Tamales: Chicken Tinga	\$2.29	20		
7	Tamales: Vegetable	\$2.29	30		
8	Arepas: Carnitas	\$2.89	10		
9	Arepas: Queso Blanco	\$2.49	20		
10	Empanadas: Apple Cinnamon	\$3.19	40		
11	Beverages: Horchata	\$1.89	25		
12	Beverages: Lemonade	\$1.89	35		
13	Beverages: Tamarindo	\$1.89	10		
14			TOTAL	\$0.00	
15					

#### Fig1.11 select cell

2. Enter the **formula** to calculate the desired value. In our example, we'll type =B4\*C4.

C4 → : × ✓ f <sub>*</sub> =B4*C4				
A	в	с	D	E
3 MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL	
4 Empanadas: Beef Picadillo	\$2.99	15	=B4*C4	
5 Empanadas: Chipotle Shrimp	\$3.99	10		
6 Tamales: Chicken Tinga	\$2.29	20		
7 Tamales: Vegetable	\$2.29	30		
8 Arepas: Carnitas	\$2.89	10		
9 Arepas: Queso Blanco	\$2.49	20		
10 Empanadas: Apple Cinnamon	\$3.19	40		
11 Beverages: Horchata	\$1.89	25		
12 Beverages: Lemonade	\$1.89	35		
13 Beverages: Tamarindo	\$1.89	10		
14		TOTAL	\$0.00	
15				

Fig 1.12 enter formula

- 3. Press **Enter** on your keyboard. The formula will be calculated, and the result will be displayed in the cell.
- 4. Locate the **fill handle** in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D4**.

D4	D4 • : × ✓ ß =B4*C4						
	А	В	с	D	E		
з	MENU ITEM		QUANTITY	LINE TOTAL			
4	Empanadas: Beef Picadillo	\$2.99	15	\$44.85			
5	Empanadas: Chipotle Shrimp	\$3.99	10				
6	Tamales: Chicken Tinga	\$2.29	20				
7	Tamales: Vegetable	\$2.29	30				
8	Arepas: Carnitas	\$2.89	10				
9	Arepas: Queso Blanco	\$2.49	20				
10	Empanadas: Apple Cinnamon	\$3.19	40				
11	Beverages: Horchata	\$1.89	25				
12	Beverages: Lemonade	\$1.89	35				
13	Beverages: Tamarindo	\$1.89	10				
14			TOTAL				
15							

Fig 1.13 Fill handle

5. Click and drag the **fill handle** over the cells you want to fill. In our example, we'll select cells **D5:D13**.

Page 20 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



D4	D4 $\checkmark$ : $\times$ $\checkmark$ $f_x$ =B4*C4								
	А	в	С	D	Е				
3 MEN	UITEM	UNIT PRICE	QUANTITY	LINE TOTAL					
4 Empa	nadas: Beef Picadillo	\$2.99	15	\$44.85					
5 Empa	anadas: Chipotle Shrimp	\$3.99	10						
6 Tama	lles: Chicken Tinga	\$2.29	20						
7 Tama	les: Vegetable	\$2.29	30						
8 Arepa	as: Carnitas	\$2.89	10						
9 Arepa	as: Queso Blanco	\$2.49	20						
10 Empa	anadas: Apple Cinnamon	\$3.19	40						
11 Bever	ages: Horchata	\$1.89	25						
12 Bever	ages: Lemonade	\$1.89	35						
13 Bever	ages: Tamarindo	\$1.89	10						
14			TOTAL	\$44.85	-				
15									

Fig1.14 formula will be copy

6. Release the mouse. The formula will be **copied** to the selected cells with **relative** 

D4 $\checkmark$ : $\succ$ $\checkmark$ $f_{s}$ =B4*C4							
A		в	с	D	E		
3 MENU ITEM			QUANTITY	LINE TOTAL			
4 Empanadas: Beef Picadi	llo	\$2.99	15	\$44.85			
5 Empanadas: Chipotle Sh	nrimp	\$3.99	10	\$39.90			
6 Tamales: Chicken Tinga		\$2.29	20	\$45.80			
7 Tamales: Vegetable		\$2.29	30	\$68.70			
8 Arepas: Carnitas		\$2.89	10	\$28.90			
9 Arepas: Queso Blanco		\$2.49	20	\$49.80			
10 Empanadas: Apple Cinn	amon	\$3.19	40	\$127.60			
11 Beverages: Horchata		\$1.89	25	\$47.25			
12 Beverages: Lemonade		\$1.89	35	\$66.15			
13 Beverages: Tamarindo		\$1.89	10	\$18.90			
14			TOTAL	\$537.85			
15							

references, displaying the result in each cell.

Fig 1.15 fill cells

You can double-click the filled cells to check their formulas for accuracy. The relative cell

references should be different for each cell, depending on their rows.

N	NETWORK * : × ✓ f. =B8*C8								
	A	В	с	D	E				
з	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL					
4	Empanadas: Beef Picadillo	\$2.99	15	\$44.85					
5	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90					
6	Tamales: Chicken Tinga	\$2.29	20	\$45.80					
7	Tamales: Vegetable	\$2.29	30	\$68.70					
8	Arepas: Carnitas	\$2.89	10	=B8 <b>*C</b> 8					
9	Arepas: Queso Blanco	\$2.49	20	\$49.80					
10	Empanadas: Apple Cinnamon	\$3.19	40	\$127.60					
11	Beverages: Horchata	\$1.89	25	\$47.25					
12	Beverages: Lemonade	\$1.89	35	\$66.15					
13	Beverages: Tamarindo	\$1.89	10	\$18.90					
14			TOTAL	\$537.85					
15									

Fig 1	.16	check	formula	accuracy
-------	-----	-------	---------	----------

Page 21 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022 Version: 1
	Author/Copyright		



#### **B.** Absolute references

There may be times when you do not want a cell reference to change when filling cells. Unlike relative references, **absolute references** do not change when copied or filled. You can use an absolute reference to keep a row and/or column **constant**.

An absolute reference is designated in a formula by the addition of a **dollar sign** (\$) before the column and row. If it precedes the column or row (but not both), it's known as a **mixed reference**.

\$A\$2	The column and the row do not change when copied
A\$2	The row does not change when copied
\$A2	The column does not change when copied

You will use the relative (A2) and absolute (\$A\$2) formats in most formulas. Mixed references are used less frequently.

When writing a formula in Microsoft Excel, you can press the **F4** key on your keyboard to switch between relative, absolute, and mixed cell references. This is an easy way to quickly insert an absolute reference.

#### To create and copy a formula using absolute references:

In the example below, we're going to use cell **E2** (which contains the tax rate at 7.5%) to calculate the sales tax for each item in **column D**. To make sure the reference to the tax rate stays constant—even when the formula is copied and filled to other cells—we'll need to make cell **\$E\$2** an absolute reference.

1. Select the **cell** that will contain the formula. In our example, we'll select cell **D4**.

D4	$\bullet$ $\bullet$ $\vdots$ $\times$ $\checkmark$ $f_{\rm sc}$				
	A	в	С	D	E
2				TAX RATE:	7.5%
з			QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	\$2.99	15		\$44.85
5	Empanadas: Chipotle Shrimp	\$3.99	10		\$39.90
6	Tamales: Chicken Tinga	\$2.29	20		\$45.80
7	Tamales: Vegetable	\$2.29	30		\$68.70
8	Arepas: Carnitas	\$2.89	10		\$28.90
9	Arepas: Queso Blanco	\$2.49	20		\$49.80
10	Empanadas: Apple Cinnamon	\$3.19	40		\$127.60
11	Beverages: Horchata	\$1.89	25		\$47.25
12	Beverages: Lemonade	\$1.89	35		\$66.15
13	Beverages: Tamarindo	\$1.89	10		\$18.90
14				TOTAL	\$537.85
15					

Fig 1.17 select cell in absolute reference

Page 22 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



2. Enter the **formula** to calculate the desired value. In our example, we'll type

=(**B4**\***C4**)\***\$E\$2**, making **\$E\$2** an absolute reference.

NETWORK▼ : × ✓ f≈ =(B4*C4)*\$E\$2					
	A	в	С	D	E
2				TAX RATE:	7.5%
з	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	\$2.99	= <b>(</b> B4	*C4)*\$E\$2	\$44.85
5	Empanadas: Chipotle Shrimp	\$3.99	10		\$39.90
6	Tamales: Chicken Tinga	\$2.29	20		\$45.80
7	Tamales: Vegetable	\$2.29	30		\$68.70
8	Arepas: Carnitas	\$2.89	10		\$28.90
9	Arepas: Queso Blanco	\$2.49	20		\$49.80
10	Empanadas: Apple Cinnamon	\$3.19	40		\$127.60
11	Beverages: Horchata	\$1.89	25		\$47.25
12	Beverages: Lemonade	\$1.89	35		\$66.15
13	Beverages: Tamarindo	\$1.89	10		\$18.90
14				TOTAL	\$537.85
15					

Fig 1.18 enter formula

- 3. Press **Enter** on your keyboard. The formula will calculate, and the result will display in the cell.
- 4. Locate the **fill handle** in the bottom-right corner of the desired cell. In our example, we'll locate the fill handle for cell **D4**.

D4 • : × ✓ fx =(B4*C4)*\$E\$2						
	A	в	с	D	E	
2				TAX RATE:	7.5%	
з	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL	
4	Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21	
5	Empanadas: Chipotle Shrimp	\$3.99	10		\$39.90	
6	Tamales: Chicken Tinga	\$2.29	20		\$45.80	
7	Tamales: Vegetable	\$2.29	30		\$68.70	
8	Arepas: Carnitas	\$2.89	10		\$28.90	
9	Arepas: Queso Blanco	\$2.49	20		\$49.80	
10	Empanadas: Apple Cinnamon	\$3.19	40		\$127.60	
11	Beverages: Horchata	\$1.89	25		\$47.25	
12	Beverages: Lemonade	\$1.89	35		\$66.15	
13	Beverages: Tamarindo	\$1.89	10		\$18.90	
14				TOTAL	\$541.21	
15						

Fig 1.19 fill handle

5.Click and drag the **fill handle** over the cells you want to fill (cells **D5:D13** in our example).

D4	→ : × ✓ fr =(B4)	*C4)*\$E\$2			
	A	В	с	D	E
2				TAX RATE:	7.5%
з	MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL
4	Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21
5	Empanadas: Chipotle Shrimp	\$3.99	10		\$39.90
5	Tamales: Chicken Tinga	\$2.29	20		\$45.80
~	Tamales: Vegetable	\$2.29	30		\$68.70
3	Arepas: Carnitas	\$2.89	10		\$28.90
•	Arepas: Queso Blanco	\$2.49	20		\$49.80
0	Empanadas: Apple Cinnamon	\$3.19	40		\$127.60
1	Beverages: Horchata	\$1.89	25		\$47.25
2	Beverages: Lemonade	\$1.89	35		\$66.15
з	Beverages: Tamarindo	\$1.89	10		\$18.90
4					\$541.21
5					

Fig 1.20 drag fill handle

Page 23 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



6.Release the mouse. The formula will be **copied** to the selected cells with

an **absolute reference**, and the values will be calculated in each cell.

D4 - : × / fx =(	(B4*C4)*\$E\$2			
A	в	C	D	E
2			TAX RATE:	7.5%
MENU ITEM		QUANTITY	SALES TAX	LINE TOTAL
Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21
Empanadas: Chipotle Shrimp	\$3.99	10	\$2.99	\$42.89
Tamales: Chicken Tinga	\$2.29	20	\$3.44	\$49.24
Tamales: Vegetable	\$2.29	30	\$5.15	\$73.85
Arepas: Carnitas	\$2.89	10	\$2.17	\$31.07
Arepas: Queso Blanco	\$2.49	20	\$3.74	\$53.54
Empanadas: Apple Cinnamor	n \$3.19	40	\$9.57	\$137.17
1 Beverages: Horchata	\$1.89	25	\$3.54	\$50.79
2 Beverages: Lemonade	\$1.89	35	\$4.96	\$71.11
Beverages: Tamarindo	\$1.89	10	\$1.42	\$20.32
4			TOTAL	\$578.19
5				

Fig 1.21 calculated value

You can double-click the **filled cells** to check their formulas for accuracy. The absolute reference should be the same for each cell, while the other references are relative to the cell's row.

N	NETWORK : >						
_	A	в	С	D	E		
2				TAX RATE:	7.5%		
з	MENU ITEM				LINE TOTAL		
4	Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21		
5	Empanadas: Chipotle Shrimp	\$3.99	10	\$2.99	\$42.89		
6	Tamales: Chicken Tinga	\$2.29	20	\$3.44	\$49.24		
7	Tamales: Vegetable	\$2.29	30	\$5.15	\$73.85		
8	Arepas: Carnitas	\$2.89	= <b>(</b> B8	8*C8)*\$E\$2	\$31.07		
9	Arepas: Queso Blanco	\$2.49	20	\$3.74	\$53.54		
10	Empanadas: Apple Cinnamon	\$3.19	40	\$9.57	\$137.17		
11	Beverages: Horchata	\$1.89	25	\$3.54	\$50.79		
12	Beverages: Lemonade	\$1.89	35	\$4.96	\$71.11		
13	Beverages: Tamarindo	\$1.89	10	\$1.42	\$20.32		
14					\$578.19		
15							

Fig 1.22check the formula

Be sure to include the **dollar sign** (\$) whenever you're making an absolute reference across multiple cells. The dollar signs were omitted in the example below. This caused Excel to interpret it as a **relative reference**, producing an incorrect result when copied to other cells.

NETWORK ▼ : × ✓ f <sub>x</sub> =(B8*C8)*E6						
A	В	с	D	E		
2			TAX RATE:	7.5%		
3 MENU ITEM	UNIT PRICE	QUANTITY	SALES TAX	LINE TOTAL		
4 Empanadas: Beef Picadillo	\$2.99	15	\$3.36	\$48.21		
5 Empanadas: Chipotle Shrimp	\$3.99	10	#VALUE!	#VALUE!		
6 Tamales: Chicken Tinga	\$2.29	20	\$2,208.19	\$2,253.99		
7 Tamales: Vegetable	\$2.29	30	#VALUE!	#VALUE!		
8 Arepas: Carnitas	\$2.89	=	(B8*C8)*E6	\$65,169.20		
9 Arepas: Queso Blanco	\$2.49	20	#VALUE!	#VALUE!		
10 Empanadas: Apple Cinnamon	\$3.19	40	##########	############		
11 Beverages: Horchata	\$1.89	25	#VALUE!	#VALUE!		
12 Beverages: Lemonade	\$1.89	35	##########	###########		
13 Beverages: Tamarindo	\$1.89	10	#VALUE!	#VALUE!		
14			TOTAL	#VALUE!		
15						

Fig 1.23 dollar sign omitted

Page 24 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



#### 1.3.2 Function

A **function** is a **predefined formula** that performs calculations using specific values in a particular order. Excel includes many common functions that can be used to quickly find the **sum**, **average**, **count**, **maximum value**, and **minimum value** for a range of cells. In order to use functions correctly, you'll need to understand the different **parts of a function** and how to create **arguments** to calculate values and cell references.

In order to work correctly, a function must be written a specific way, which is called the **syntax**. The basic syntax for a function is the **equals sign** (=), the **function name** (SUM, for example), and one or more **arguments**. Arguments contain the information you want to calculate. The function in the example below would add the values of the cell range A1:A20.



Arguments can refer to both **individual cells** and **cell ranges** and must be enclosed within **parentheses**. You can include one argument or multiple arguments, depending on the syntax required for the function.

For example, the function **=AVERAGE(B1:B9)** would calculate the **average** of the values in the cell range B1:B9. This function contains only one argument.

N	ETWORK	- : × ~	<i>f</i> <sub>∞</sub> =A\	/ERAGE(B1	:B9)
	A	В	С	D	E
1		1	Ī		
2		4			
з		5			
4		6			
5		8			
6		2			
7		3			
8		5			
9		6	<u>I</u>		
10		=AVERAGE(B1:B9)	I		
11			T		

Fig 1.24 one argument

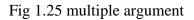
Multiple arguments must be separated by a comma. For example, the function =SUM(A1:A3,

C1:C2, E1) will add the values of all of the cells in the three arguments.

Page 25 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



AS	5	- : :	×	<i>f</i> <sub>x</sub> =SU	JM(A1:A3,C	1:C2,E1)
	А	в	с	D	E	F
1	4		6	T I	20	
2	8		10			
з	12					
4						
5	=SUM(A1	:A3,C1:C2	,E1)			
6						



#### **Creating a function**

There are a variety of functions available in Excel. Here are some of the most common functions you'll use:

- SUM: This function adds all of the values of the cells in the argument.
- **AVERAGE**: This function determines the **average** of the values included in the argument. It calculates the sum of the cells and then divides that value by the number of cells in the argument.
- **COUNT**: This function **counts** the number of cells with numerical data in the argument. This function is useful for quickly counting items in a cell range.
- MAX: This function determines the highest cell value included in the argument.
- MIN: This function determines the lowest cell value included in the argument.

#### To create a function using the AutoSum command:

The **AutoSum** command allows you to automatically insert the most common functions into your formula, including SUM, AVERAGE, COUNT, MIN, and MAX. In the example below, we'll use the **SUM** function to calculate the **total cost** for a list of recently ordered items.

1. Select the **cell** that will contain the function. In our example, we'll select cell **D13**.

D13 - I	$\sim$ $\checkmark$ $f_{\pi}$				
	A	B	С	D	
2 ITEM					
3 Tomatoes (	case of 12)	3	\$17.44	\$52.32	
4 Black Beans	(case of 10)	5	\$20.14	\$100.70	
5 All Purpose	Flour (50 lb.)	5	\$14.05	\$70.25	
6 Corn Meal/	Maza (25 lb.)	5	\$18.69	\$93.45	
7 Brown Rice	(25 lb.)	5	\$10.99	\$54.95	
8 Lime Juice (	1 gallon)	5	\$11.99	\$59.95	
9 Tomato Juio	ce (case of 10)	3	\$19.49	\$58.47	
10 Hot Sauce (	1 gallon)	8	\$7.35	\$58.80	
11 Salsa, Medi	um (1 gallon)	12	\$8.47	\$101.64	
12 Olive Oil (2.	5 gallon)	4	\$28.69	\$114.76	
13			TOTAL	-	
14					

Fig 1.26 select cell

Page 26 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



 In the Editing group on the Home tab, click the arrow next to the AutoSum command. Next, choose the desired function from the drop-down menu. In our example, we'll select Sum.

* * *	Insert	Cells	AutoSum     AutoSum       Sum     Id &       Average     Sum (Alt+=)       Count Numbers     Automatically add it up. Your total       Max     Will appear after the selected cells.
J	0	P	Min More Eunctions

Fig 2.27 edit group

Excel will place the function in the cell and automatically select a cell range for the argument. In our example, cells D3:D12 were selected automatically; their values will be added to calculate the total cost. If Excel selects the wrong cell range, you can manually enter the desired cells into the argument.

N	etwork 👻 : 🗙 🖌 考 =SUN	A(D3:D12)		
	А	В	с	D
2	ITEM	QUANTITY	UNIT PRICE	LINE TOTAL C
з	Tomatoes (case of 12)	3	\$17.44	\$52.32
4	Black Beans (case of 10)	5	\$20.14	\$100.70
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95
8	Lime Juice (1 gallon)	5	\$11.99	\$59.95
9	Tomato Juice (case of 10)	3	\$19.49	\$58.47
10	Hot Sauce (1 gallon)	8	\$7.35	\$58.80
11	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64
12	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76
13			=	SUM(D3:D12)
14				SUM(number1, [number2],)

Fig 1.28 automatically cell rang

4. Press **Enter** on your keyboard. The function will be **calculated**, and the **result** will appear in the cell. In our example, the sum of D3:D12 is **\$765.29**.

Page 27 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



DI	D13 • : × ✓ fx =SUM(D3:D12)									
	А	В	С	D						
2	ITEM	QUANTITY	UNIT PRICE	LINE TOTAL	0					
з	Tomatoes (case of 12)	3	\$17.44	\$52.32						
4	Black Beans (case of 10)	5	\$20.14	\$100.70						
5	All Purpose Flour (50 lb.)	5	\$14.05	\$70.25						
6	Corn Meal/Maza (25 lb.)	5	\$18.69	\$93.45						
7	Brown Rice (25 lb.)	5	\$10.99	\$54.95						
8	Lime Juice (1 gallon)	5	\$11.99	\$59.95						
9	Tomato Juice (case of 10)	3	\$19.49	\$58.47						
10	Hot Sauce (1 gallon)	8	\$7.35	\$58.80						
11	Salsa, Medium (1 gallon)	12	\$8.47	\$101.64						
12	Olive Oil (2.5 gallon)	4	\$28.69	\$114.76						
13			TOTAL	\$765.29						
14										

Fig 1.29 Result

The AutoSum command can also be accessed from the Formulas tab on the Ribbon.

File	Home	Insert	Page Layout	Form	nulas Da	ita Revi	ew Vie	w ♀⊤∉	ell me what	you want
$f_X$	$\mathbf{\Sigma}$	*	_=⁼ ?	A		۹ 🛛		-		ine Name in Formu
Insert Function	- N	Recently F Used -	inancial Logical		0ate & Look Fime ≠ Refer	up& Math ence∓ Trig			ie 🗍 –	ate from S
	Σ Sun	n	Function	Library					Define	d Names
D13		rage		SUM(D	3:D12)					
	<u>C</u> ou Max	int Numbe	rs		в		-	D	•	
2 ITEN				QL	JANTITY	UNI	PRICE	LINE	TOTAL	0
3 Tom	Mor	re <u>F</u> unction	s		3	:	\$17.44	() 1	\$52.32	
4 Blac	k Bean	is (case	of 10)		5	:	\$20.14	\$1	100.70	

Fig 1.30 Auto sum

You can also use the **Alt**+= keyboard shortcut instead of the AutoSum command. To use this shortcut, hold down the **Alt** key and then press the **equals sign**.

# **1.4 Correct formulas**

Sometimes Excel comes across a formula that it cannot calculate. When this happens, it displays an error value. Error values occur because of incorrectly written formulas, referencing cells or data that don't exist, or breaking the fundamental laws of mathematics.

#### #### Error

The #### error occurs when the column isn't wide enough to fit the cell data.

1. Double-click the line to the right of the column letter for the column containing the error.

Page 28 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



,	AutoSave Off	日 ら・ふ・ =	01-f	ormula-error	s - Excel	Kayla Claypool	<b>E</b> – C	ı ×
F	ile Home	Insert Draw	Page Layout	Formulas	Data Revi	iew View H	elp 🔎 Tell me	Ê
		<u>U</u> - A^ A <sup>*</sup>		<ul> <li>.00</li> <li>.00</li> </ul>	6 9 🐺 Forma		Cells Editing	
Cli	pboard 🕞	Font ra	Alignment	IS NUM	r al	Styles		~
	▼ :	$\times \checkmark f_x$						~
	A	в	с	D	E	F	G	-
1	Bon Voyage E	xcursions						
2								
з	Excursion	Jan	Feb	Mar	Total	Average		
4	Beijing	6,010	7,010		#NAME?	6,513		
5	Las Vegas	35,250	28,125	37,455	#VALUE!	33,610		
6	México DF	20,850	17,200	27,010	65,060	#DIV/0!		
7	Paris	33,710	29,175	35,840	#REF!	32,908		
8	Tokyo	12,510	14,750	11,490	38,750	12,917		
9	Total	108,330	96,260	#######	#NAME?			
10								
11								
12								
13								
	Erro	ors (+)			: 4	1		
Rea	ady							+ 100%

Fig 1.31 column narrow width

The column width automatically resizes to fit the widest string of text in the column, thus fixing the error.

To resize all columns in the sheet at once, click the Select All button in the upper-left of the worksheet before resizing a column's width.

NAME Error

You'll see the #NAME? error when the text in the formula isn't recognized. Sometimes it's easy to figure out the error, but other times you'll need help to determine what's happening. For this example, you'll use Excel's Error Checking feature to help fix the problem.

- 1. Select the cell with the #NAME? error.
- 2. Click the **Formulas** tab.
- 3. Click the **Error Checking** button.

Page 29 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



,	AutoSave 💽 Off	田 り・ C・ Ŧ	01-fc	ormula-errors -	Excel J	(ayla Claypool 🛛 🖻	ı — D	×
F	ile Home	Insert Draw	Page Layout	Formulas	Data Review	View Help		ß
	nction 🔋 Financial י	Jsed 👻 🔺 Text 🗸	Q ▼ Q ▼ Defi me ▼ □ ▼ Nam	ned 2 Trac	e Precedents Dependents rove Arrows Formula At 3	Watch Cal Window Op	culation otions +	~
E4	· · · · ·	$\times \checkmark f_x$	=SM(B4:D4)					~
	А	В	с	D	E	F	G	
1	Bon Voyage E	xcursions						
2								
3	Excursion	Jan	Feb	Mar	Total	Average		
4	Beijing	6,010	7,010	6,�0	#NAME?	6,513		
5	Las Vegas	35,250	28,125	37,455	#VALUE!	33,610		
6	México DF	20,850	17,200	27,010	65,060	#DIV/0!		
7	Paris	33,710	29,175	35,840	#REF!	32,908		
8	Tokyo	12,510	14,750	11,490	38,750	12,917		
9	Total	108,330	96,260	118,315	#NAME?			
10								
11								
12								
13								
	< → Erro	ors (+)			: •			▼ ▼
Rea	dy				=	■ Ⅲ -	+	100%

#### Fig 1.32 error check button

The Error Checking dialog box opens. The left side of the dialog box shows the formula that's causing the error and gives a description of what's happening.

- 4. Select an error checking option at the right and fix the error.
  - Help on This Error: Displays information specific to the error type.
  - Show Calculation Steps: Demonstrates all steps leading to the error.
  - **Ignore Error:** Allows you to accept the formula as entered, without Excel displaying the Error Checking Options smart tag.
  - Edit in Formula Bar: Allows you to edit the formula that is generating the error in the Formula Bar.
- 5. Close the dialog box.

Page 30 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



Ļ	AutoSave 💽 Off) 📙	] 9· C· =	01-formul	a-errors - Excel	Kaj	/la Claypool	<b>A</b> –		< -
F	ile Home In	isert Draw Page	Layout For	mulas Data	Review	View Hel	D 🔎 Tell i	me 🖻	
	fx ∑ AutoSum isert inction I Financial →	ed • 🔺 Text • 🔮 Date & Time •	•    •    • <td>문<sub>2</sub> Trace Prece 다음 Trace Deper 문<mark>X</mark> Remove Arr</td> <td>ows = 🎊</td> <td>Window C</td> <td>alculation Options *</td> <td></td> <td></td>	문 <sub>2</sub> Trace Prece 다음 Trace Deper 문 <mark>X</mark> Remove Arr	ows = 🎊	Window C	alculation Options *		
	Funct	ion Library		Forr	nula Auditing		Calculation		^
E4		$\times \checkmark f_x = SN$	1(B4:D4)						~
	А	в	с	D	E	F 5	G		-
1	Bon Voyage Ex	Error Checking				? ×	1		Ŀ
2						. ~			
3	Excursion	Error in cell E4 = SM(B4:D4)			Help on this	Error			
4	Beijing	Invalid Name Error		5	how <u>C</u> alculatio	in Steps			
5	Las Vegas	The formula contains u	nrecognized te	4			1		
6	México DF		-		<u>I</u> gnore Er	ror			
7	Paris				Edit in <u>F</u> orm	ula Bar			
8	Tokyo	Options			Previous	Next	1		
9	Total	200,000					-		
10									
11									
12									
13									-
	Errors	+			: •			•	
Rea	dy				=	□ □ -		+ 100%	6

Fig 1.33 close dialog box

The #NAME? error in the cell is replaced with the corrected formula.

#### VALUE! Error

The #VALUE! error tells you there's something wrong with the cells you're referencing or with the way the formula is typed. This is a very general error and it can be tricky to pinpoint the cause of it. This example uses the Trace Precedents feature to help fix the error.

- 1. Select the cell with the #VALUE! error.
- 2. Click the **Trace Precedents** button on the Formulas tab.

,	AutoSave Off	田 ら・ふ・ =	- 01-f	ormula-errors -	Excel #	ayla Claypool 🛛 🖪	ı — 🗆	$\times$
F	ile Home	Insert Draw	Page Layout	Formulas	Data Review	View Help		ß
	$ \int x \qquad \sum \text{AutoSum} \\ \text{Desert} \qquad \boxtimes \text{Recently L} \\ \text{Inction} \qquad \boxtimes \text{Financial} \\ \text{Fundamental} \\ \end{bmatrix} $	Jsed - 🔺 Text -	🖸 - Defi	ined Trac	e Precedents 🕅 x e Dependents 🙏 nove Arrows 👻 🕼 Formula Auditing	Window Op	culation	~
E5		× ~ f_x	=A5+B5+C5+D	5				~
	A	в	с	D	E	F	G	
1	Bon Voyage E	xcursions						
2								
з	Excursion	Jan	Feb	Mar	Total	Average		
4	Beijing	6,010	7,010		19,540	6,513		
5	Las Vegas	35,250	28,125	37, 🗣 5	#VALUE!	3,610		
6	México DF	20,850	17,200	27,010	65,060	#DIV/0!		
7	Paris	33,710	29,175	35,840	#REF!	32,908		
8	Tokyo	12,510	14,750	11,490	38,750	12,917		
9	Total	108,330	96,260	118,315	#VALUE!			
10								
11								
12								
13								
	Erro	ors (+)			: 4			
Rea		··· ·			: •	I I	_	100%

Fig 1.34 click trace precedents

Page 31 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



Trace Precedents shows dots that indicate which cells affect the value of the currently selected cell. This helps to visually locate the error.

- 3. Locate the cell that's causing the error.
- 4. Correct the formula in the formula bar.
- 5. Click or press Enter.

		日 り・ ペ・ <del>-</del>	01-fe	ormula-errors -	Excel j	Kayla Claypool 🛛 🗖	. – c		
F	ile Home	Insert Draw	Page Layout	Formulas	Data Review	View Help		ß	
	nction 🗐 Financial	Used - 🔺 Text -	⊕ - Defi	ned Trac	e Precedents 🥠 e Dependents 🎄 nove Arrows 👻 🕼 Formula Auditing	Watch Cal Window Op	culation otions *		
E5	¥ 1	$\times \checkmark f_x$	=A5+B5+C5+D	5 4				~	
	А		С	D	E	F	G	<b>^</b>	
1	Bon Voyage E	xcurs							
2									
з	Excursion	Jan	Feb	Mar	Total	Average			
4	Beijing	6,010	7,010	6,520	19,540	6,513			
5	La <del>s Vegas</del>	<ul> <li>35,250</li> </ul>	<ul> <li>28,125</li> </ul>	•37, 10 5		33,610			
6	Méxi o DF	20,850	17,200	,	65,060	#DIV/0!			
7	Pa 3	33,710	29,175	,	#REF!	32,908			
8	Tokyo	12,510	14,750		38,750	12,917			
9	Total	108,330	96,260	118,315	#VALUE!				
10									
11									
12									
13									
	< > Erro	ors (+)			E 4			•	
Rea	ıdy					= <u> </u>		+ 100%	

Fig 1.35 precedence show

The formula updates to display the correct result and the #VALUE! error disappears.

#### DIV/0! Error

You will see the #DIV/0! Error any time a number is divided by zero. This includes typing "/0"

in a formula or referencing a cell to divide by that contains 0 or is blank.

- 1. Select the cell with the error.
- 2. Click in the formula bar and fix the error.
- 3. Click or press Enter.

Page 32 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



4	AutoSave Off	日 ら・く・ =	: 01-f	ormula-errors -	Excel #	(ayla Claypool 🛛 🗖	9 – D	$\times$	
F	ile Home	Insert Draw	Page Layout	Formulas	Data Review	View Help		ß	
	fx       ∑ AutoSum ~ [] Logical ~ [] ·         Insert       ⊠ Recently Used ~ [] ·       □         Function       □ Financial ~ [] ·       □ Det & Time ~ [] ·         Function Library       □       -         Formula Auditing       Calculation       □								
FO	F6 • : × • f* =SUM(B6:D6)/3 < 2								
	A		С	D	E	F	G		
	Bon Voyage E	xcurs							
2									
-	Excursion	Jan	Feb	Mar	Total	Average			
4	Beijing	6,010	7,010	6,520	19,540				
5	Las Vegas	35,250	28,125	37,455	100,830				
6	México DF	20,850	17,200	27,010	65, 🔹 0	#DIV/0!			
7	Paris	33,710	29,175	35,840	#REF!	32,908			
8	Tokyo	12,510	14,750	11,490	38,750	12,917			
9	Total	108,330	96,260	118,315	#REF!				
10									
11									
12									
13									
	< > Erro	ors 🕒			: 4	]			
Rea	dy					E 🗉 – –	+	100%	

Fig 1.36 click enter

The cell updates to the correct result and the #DIV/0! Error is fixed.

#### **REF!** Error

You will get the #REF! error when a formula references a cell that's not valid. This often happens when referenced cells get deleted or pasted over.

- 1. Select the cell with the #REF! error.
- 2. Click in the formula bar and fix the error.
- 3. Click or press Enter.

ļ	AutoSave 💽 Off	日 り・ C・ =	: 01-fo	ormula-errors -	Excel y	(ayla Claypool 🛛 🗖	ı – D	×	
F	ile Home	Insert Draw	Page Layout	Formulas	Data Review	View Help	🔎 Tell me	ß	
	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $								
SU	SUM ▼ : × ✓ f <sub>x</sub> =B7+C7+D7 <2								
	А		с	D	E	F	G		
1	Bon Voyage E	xcurs 3							
2									
3	Excursion	Jan	Feb	Mar	Total	Average			
4	Beijing	6,010	7,010	6,520	19,540	6,513			
5	Las Vegas	35,250	28,125	37,455	100,830	33,610			
6	México DF	20,850	17,200	27,010	65,060	21,687			
7	Paris	33,710	29,175	35,840	#REF!	2,908			
8	Tokyo	12,510	14,750	11,490	38,750	12,917			
9	Total	108,330	96,260	118,315	#REF!				
10									
11									
12									
13									
	< → Erro	ors (+)			: 4				
Rea	dy				=	■	+	100%	

Fig 1.37 formula invalid

The cell reference is now valid and the #REF! error no longer displays.

Page 33 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
	Author/Copyright		Version: 1



# 1.5 Edite column and row within the spreadsheet

By default, every row and column of a new workbook is set to the same height and width. Excel

allows you to modify column width and row height in different ways, including wrapping

#### text and merging cells.

#### To modify column width:

In our example below, column C is too narrow to display all of the content in these cells. We can make all of this content visible by changing the **width** of column C.

1. Position the mouse over the column line in the column heading so the cursor becomes

#### a double arrow.

C1						
	A	В	с +	• •		
1	Customer Cor	ntact List				
	COMPANY NAME	CONTACT NAME	BILLING ADDRESS	PHONE		
2						
3	Adventure Outfitters	Jake Finn	1407 Dusty Fawn Ln Soaptown, SD	605-555-6435		
4	Aria Real Estate	Katie Stark	971 Cinder Butterfly St Stoughton, I	603-555-2460		
5	Core Pharmaceuticals	Phillip Yuen	5108 Crystal Gate Blvd Twig City, K	913-555-5928		
6	Everly Publishing	Felicia Reyes	8544 Lazy Bluff Ave Whiskey Creek	316-555-3256		
7	Mass Airlines	Miranda Lawson	5316 Colonial Pkwy Esterhazy, NM	575-555-9255		
8	Newhaven Traders	Rick Chaturvedi	2428 S Redding St #2 Bogg's Corne	360-555-5422		
9	Overlook Inn	Jill Torrance	3160 Amber Gate Rd Rodney Villag	605-555-4495		
10	Riley Garden Supply	Vivica da Silva	8595 Thunder Brook Cir Gravity, W.	360-555-4289		
11	Knope Equestrian Center	Lil Sebastian	9060 Easy Evening Ln Walkinghood	207-555-7225		
12	Venture Brewing	Hank Dean	3034 Foggy Wharf Loop Bee Rock, I	308-555-1050		
13	Placerville Insurance	Chris Kinkade	1028 Quiet Dale Rd Homosassa, MI	443-555-4942		
14	Archer Properties	Mallory Figgis	3520 Sleepy Hearth Dr Calendar, W	425-555-5370		
15						
16						

Fig 1.38 mouse position

2. Click and drag the mouse to **increase** or **decrease** the column width.

C1	• • • × • •	fx	\	Width: 40.13 (326 pixels	)
	A	В	С	++	D
1	Customer Cor	ntact List			
	COMPANY NAME	CONTACT NAME	BILLING ADDRESS	PHONE	EMAIL
2					
3	Adventure Outfitters	Jake Finn	1407 Dusty Fawn Ln Soaptown, SD	605-555-6435	jake@a
4	Aria Real Estate	Katie Stark	971 Cinder Butterfly St Stoughton, I	603-555-2460	katie.st
5	Core Pharmaceuticals	Phillip Yuen	5108 Crystal Gate Blvd Twig City, K	913-555-5928	yuenp
6	Everly Publishing	Felicia Reyes	8544 Lazy Bluff Ave Whiskey Creek	316-555-3256	felicia@
7	Mass Airlines	Miranda Lawson	5316 Colonial Pkwy Esterhazy, NM	575-555-9255	mlaws
8	Newhaven Traders	Rick Chaturvedi	2428 S Redding St #2 Bogg's Corne	360-555-5422	info@r
9	Overlook Inn	Jill Torrance	3160 Amber Gate Rd Rodney Villag	605-555-4495	jtorran
10	Riley Garden Sunnly	Vivica da Silva	8595 Thunder Brook Cir Gravity W.	260-555-4289	vivica@

Fig 1.39 click and drag mouse

3. Release the mouse. The **column width** will be changed.

Page 34 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022 Version: 1
	Author/Copyright		



C1	▼ : × ✓	f <sub>×</sub>		
	А	В	C	• <b>+</b> • D
1	Customer Co	ntact List		
	COMPANY NAME	CONTACT NAME	BILLING ADDRESS	PHONE
2				
3	Adventure Outfitters	Jake Finn	1407 Dusty Fawn Ln Soaptown, SD 57696	605-555-6435
4	Aria Real Estate	Katie Stark	971 Cinder Butterfly St Stoughton, NH 03204	603-555-2460
5	Core Pharmaceuticals	Phillip Yuen	5108 Crystal Gate Blvd Twig City, KS 66208	913-555-5928
6	Everly Publishing	Felicia Reyes	8544 Lazy Bluff Ave Whiskey Creek, KS 66689	316-555-3256
7	Mass Airlines	Miranda Lawson	5316 Colonial Pkwy Esterhazy, NM 88431	575-555-9255
8	Newhaven Traders	Rick Chaturvedi	2428 S Redding St #2 Bogg's Corner, WA 98175	360-555-5422
9	Overlook Inn	Jill Torrance	3160 Amber Gate Rd Rodney Village, SD 57324	605-555-4495
10	Riley Garden Supply	Vivica da Silva	8595 Thunder Brook Cir Gravity, WA 99304	360-555-4289
11	Knope Equestrian Center	Lil Sebastian	9060 Easy Evening Ln Walkinghood, ME 04126	207-555-7225
12	Venture Brewing	Hank Dean	3034 Foggy Wharf Loop Bee Rock, NE 69823	308-555-1050
13	Placerville Insurance	Chris Kinkade	1028 Quiet Dale Rd Homosassa, MD 21610	443-555-4942
14	Archer Properties	Mallory Figgis	3520 Sleepy Hearth Dr Calendar, WA 99340	425-555-5370
15				
16				

Fig 1.40 column width change

Simply **increase the column width** to make the data visible.

# 1.6 use AutoFill function to increment data in Excel

You will learn how to fill down series of numbers, dates and other data, create and use custom lists in Excel.

	A	в	с	D			A	в	С	D
1	The follow	ving data we	re generate	ed randomly	1	1	The follow	ing data we	re generate	d randor
2	First Name	e Last Name	Number			2	First Name	Last Name	Number	
з	Helen	Twain	1			з	Helen	Twain	1	
4	Anna	Connon	2			4	Anna	Connon	2	
5	Bryan	Johnson		1		5	Bryan	Johnson	3	
6	David	Fisher				6	David	Fisher	4	
7	Sandra	Williams				7	Sandra	Williams	5	
8	Gary	Rich				8	Gary	Rich	6	
9	Marie	Clark				9	Marie	Clark	7	
10	Alfred	Cutting				10	Alfred	Cutting	8	
11	Sean	Rice			$\square$	11	Sean	Rice	9	
12	Steve	Bower			Ľ	12	Steve	Bower	10	
13	Gary	Abner				13	Gary	Abner	11	
14	David	Polzin				14	David	Polzin	12	
15	Jean	Finneran				15	Jean	Finneran	13	
16	Gary	Bradley				16	Gary	Bradley	14	
17	Boruch	Rich				17	Boruch	Rich	15	
18	Alex	Walsh				18	Alex	Walsh	16	
19	Gloria	Mitchell				19	Gloria	Mitchell	17	
20	Boruch	Laping				20	Boruch	Laping	18	

Fig 1.41 fill down series

Page 35 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
	Author/Copyright		Version: 1
	Author/Copyright		



# 1.7 Save spreadsheet

It's important to **save your workbook** whenever you start a new project or make changes to an existing one. Saving early and often can prevent your work from being lost.

1. Locate and select the Save command on the Quick Access Toolbar.



Fig 1.43 file tab

- 2. If you're saving the file for the first time, the **Save As** pane will appear in **Backstage view**.
- You'll then need to choose where to save the file and give it a file name. To save the workbook to your computer, select Computer, then click Browse. Alternatively, you can click OneDrive to save the file to your OneDrive.

Info	Save As	Book1 - Excel
New Open Save Save As Print Share Export Publish Close	<ul> <li>OneDrive - Personal javier.floresB38@gmail.com</li> <li>Other Web Locations</li> <li>This PC</li> <li>Add a Place</li> <li>Browse</li> </ul>	Pinned Documents Javier Flores's OneDrive × Documents Older Javier Flores's OneDrive

Fig1.42 save as pan

- 4. The **Save As** dialog box will appear. Select the **location** where you want to save the workbook.
- 5. Enter a **file name** for the workbook, then click **Save**.

Page 36 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



Save As		×
← → ~ ↑ 📘	« Docume > Javy's Documents	✓ ট Search Javy's Documents ০
Organize 👻 Ne	w folder	
Public This PC Desktop Documents Downloads Movies	Image: The second se	
File name:	Vesta Webinar Log	~
Save as type:	Excel Workbook	~
Authors:	Javier Flores	Tags: Add a tag
	Save Thumbnail	
) Hide Folders		Tools - Save Cancel

Fig 1.44 dialog box

6. The workbook will be **saved**. You can click the **Save** command again to save your changes as you modify the workbook.

You can also access the **Save** command by pressing **Ctrl+S** on your keyboard.

Page 37 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



# Self-check-1

Test-I Multiple choices.

Instruction: Answer the following questions and put your answer.

# I. Choose the correct answer from the given alternatives

1. Star Office Calc has a variety of

A. Buttons	C. Options
B. Functions	D. All
2. The cells are addressed in terms of	
A. Row and column labels	C. Rows
B. Row labels	D. Columns
3. Which of the following data can be typed into a	Spreadsheet cell?
(A) Formulae	(C) Numbers
(B) Text	(D) All of these
4. Which bar is used to display options?	
(A) Menu	(C) Formula
(B) Function	(D) Status
5. The intersection of rows and columns creates	
(A) Cells	
(B) Worksheets	
(C) Spreadsheets	
(D) None of these	
6.A group of cells is called a	
A. cell cluster	B. multicell
C. chart	D. cell range
7. The intersection of a row and a column is called a	ì
A. chart	B. worksheet
C. sum	D. cell

	nistry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
Aut	thor/Copyright		



# **Operation title 1: Create spreadsheet**

## Purpose: -

- To familiarize with Microsoft excel 2016 environment.
- To know how to work formula, function, edit column and row and enter data into cell.

**Instruction:** The Given necessary equipment, tools and materials you are follow the necessary steps and use the given figure below (1.44), operate each task. You have given 1:30 hour for the task and you are expected to write the answer task.

	А						
1		Payroll					
2	Date:	1/1/2011					
	EMPL		Hourly	Hours	C D		Net Deve
3	Number	EMPL Name	Rate	Worked	Gross Pay	S.S Tax	Net Pay
4	E00001	Ford	7.5	35	?	?	?
5	E00002	Mino	8	30	?	?	?
6	?	Bell	6.5	25	?	?	?
7	?	Davis	9	40	?	?	?
8	?	Turro	10	39	?	?	?

## Fig 1.44 payroll

Task1: Open a new workbook and save the file with the name "Payroll".

Task2: Enter the column/labels and values in the exact cells locations as desired.

Task3: Use AutoFill to put the Employee Numbers into cells A6:A8.

Task4: Set the columns width and rows height appropriately.

Task5: Set labels alignment appropriately.

Task6: Use warp text and merge cells as desired.

Task7: Apply borders, gridlines and shading to the table as desired.

Task8: Format cell B2 to Short Date format.

Task9: Format cells E4:G8 to include dollar sign with two decimal places.

**Task10**: Calculate the Gross Pay for employee; enter a formula in cell E4 to multiply Hourly Rate by Hours Worked.

**Task11**: Calculate the Social Security Tax (S.S Tax), which is 6% of the Gross Pay; enter a formula in cell F4 to multiply Gross Pay by 6%.

Task12: Calculate the Net Pay; enter a formula in cell G4 to subtract Social Security Tax from

Page 39 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills		September, 2022
	Author/Copyright		



Gross Pay.

LAP Test 3

13. Set the work sheet vertically and horizontally on the page.

14. Save your work.

Tools and requirement: - ICT room, computer, Printer, A4 paper, Mouse and keyboard, Monitor, Basic Software, Documents and pen/pencil. Precautions: Microsoft office is install. Procedures:-in doing the task Step-1: Click on start → All Application→Click Microsoft office excel 2016 → click blank document Step-2: enter data in to cell Step-3: based on figure enter data each cell Step-4: based on figure change format Step-5: based on figure create formula and function Step-6: the error is occurred to correct Step-7: save the file based on the given

Quality Criteria: based on the figure check the task are properly done.

L					
Page	e 40 of 89	Ministry of Labor and Skill	ls Operate Spreadsheet Appl	ication Date: September 202	22
		_		Version: 1	
		Author/Copyright			

**Practical Demonstration** 



**Instruction:** The given necessary equipment, tools and materials you are follow the necessary steps and use the given figure (1.)operate each task. You have given 1:30 hour for the task and you are expected to write the answer.

	Α	В	С	D	E	F	
1		Panda EST					
2		Monthly Sales Report - July					
3							
4	Emp. No.	Name	Salary	Sales Amount	Comission	Total Salary	
5	S101	Ahmed	1600	2500	?	?	
6	S105	Hassan	1800	3000			
7	S112	Ali	1500	2200			
8	S107	Waleed	2000	4500			
9	5110	Mohammed	1700	3500			
10	S103	Samir	1600	2500			
11							
12		Totals	?	?	?	?	
13		Average	?	?	?	?	
14		Highest	?	?	?	?	
15		Lowest	?	?	?	?	
16		Count	?				

## Fig 1.45 panda EST

**Task1:** Create the worksheet shown above.

Task2: Set the column widths as follows: Column A: 8, Column B: 14, Columns C & D: 15,

Columns E & F: 14.

Task3: Enter the formula to find COMMISSION for the first employee.

The commission rate is 2% of sales, COMMISSION = SALES \* 2%

Copy the formula to the remaining employees.

Task4: Enter the formula to find TOTAL SALARY for the first employee where:

TOTAL SALARY = SALARY + COMMISSION

Copy the formula to the remaining employees.

Task5: Enter formula to find TOTALS, AVERAGE, HIGHEST, LOWEST, and COUNT

values.

Copy the formula to each column.

Task6: Format numeric data to include commas and two decimal places.

Task7: Align all column title labels horizontally and vertically at the center.

**Task8:** Create a Header that includes your name in the left section, page number in the center section, and your ID number in the right section.

Task9: Create footer with DATE in the left section and TIME in the right section.

Task10: Save the file with name "LAB1"

Page 41 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



# Unit Two: Customize basic settings

This unit to provide you the necessary information regarding the following content coverage and topics:

- Adjust page layout
- Open and view different toolbars
- Change font settings
- Change alignment and line spacing
- Modify margin sizes
- View multiple spreadsheets concurrently

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Adjust page layout to meet user requirements or special needs
- Open and view different toolbars
- Change font settings so that they are appropriate for the purpose of the document
- Change alignment options and line spacing according to spreadsheet formatting features
- Modify margin sizes to suit the purpose of the spreadsheets
- View multiple spreadsheets concurrently

Page 42 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022 Version: 1
	Author/Copyright		



# 2.1 Adjust page layout

In Microsoft Excel there are several ways you can alter and edit the layout your work sheet.to begin, it is advisable to view your worksheet page layout view as this shows the margin and ruler as well as how the worksheet will appear when printed.

Insert	Page Layo	out	Formul	as	Data	Revi	iew
		ID	L.			3	
Margins	Orientation	Size	Print	Breaks	Backgr	ound	Print
-	-	-	Area -	-			Titles
		Pa	ge Setup				Es.

Fig 2.1 page layout tab

# 2.2 Open and view different toolbars

Т	oolbar in Excel
AutoSave 💽 🗍	り・ペ・D 🖺 토 <del></del>
File Home Ins	Sert     Page Layout     Customize Quick Access Toolbar     v     Vi       Image Layout     Image Access Toolbar     Vi     Vi       Image Layout     Image Access Toolbar     Vi
General Formulas Data Customize Ribbon Quick Access Toolbar Add-ins Trust Center	Customize the Quick Access Toolbar. Choose commands from: Popular Commands Select the list of tools you want to add UtoSave Add or Remove Filters AutoSave Add or Remove Calculate Commands Calculate Conditional Formatting Modify

## Fig 2.2 toolbar interface

The Toolbar is an area where you can add different commands or tools associated with excel. By default, it is located above the ribbon with different tools and visible in the Excel window's upper right corner. To increase customer friendliness, toolbars have become customizable according to the frequent use of different tools. Instead of a set of tools, excel gives us the option to select and build a Quick Access Toolbar

Page 43 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



It is a symbolical representation of built-in options available in Excel. By default, it contains the below commands.

- 1. Save: To save the created workbook.
- 2. Undo: To return or step back one level of an immediate action performed.
- 3. **Redo:** Repeat the last action.

## Use the Toolbar in Excel

The Toolbar in Excel is a shortcut tool to avoid searching for the commands you often use in the worksheet. Using Toolbar in Excel is easy, and it helps us simplify access to the document's commands. Let's understand the working of the Toolbar in Excel by some examples given below.

## Adding Commands to the Toolbar in Excel

To get more tools, you have the option to customize the Quick Access Toolbar simply by adding the commands.

• Click on the downward-facing arrow at the end of the Toolbar in Excel. A pop up will be shown as **Customize Quick Access Toolbar.** 



Fig 2.3 custom quick access toolbar

• From the dropdown, you will get a list of commonly used commands. Click any of the options that you want, and it will be added to the toolbar.

Page 44 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



E 9 · C · D	=	
Insert Page Lay	Cus	tomize Quick Access Toolbar
	~	Automatically Save
	<	New
Page Custom Gr Layout Views		Open
Views	~	Save
		Email
: × ✓ f.		Quick Print
в с р		Print Preview and Print
		Spelling
	~	Undo
	$\sim$	Redo
		Sort Ascending
		Sort Descending
		Touch/Mouse Mode
		More Commands
		Show Below the Ribbon

Fig 2.4 custom quick access list

• **A new** command is selected, and this will be added to the toolbar highlighted as the command is added with already available tools.



In a similar way, you can add the tools which you want to access quickly. So instead of clicking and finding the tools from the multiple hierarchies, you can access the option within a single click.

# 2.3 Change font settings

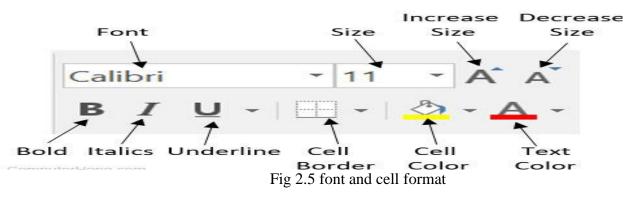
In Microsoft Excel, a user can change the properties of text in any cell, including font type, size, color, and make it bold, italic, or underlined. They can also change the color of a cell's background and the border around a cell. The following picture is a graphic illustration of the font and cell format bar in Excel with a description of each option.

*Font* is a general computer term and refers to the style, size and colour of the text and numbers in your worksheet.

Page 45 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



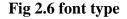
## 2.3.1 Changing font type



To change the text font in a Microsoft Excel spreadsheet, follow the steps below.

- 1. Select the cell containing the text you want to change.
- 2. Click the down arrow next to the font field on the format bar. (If you want to change the font to bold, italic, or underlined, click the B, I, or U on the format bar.)
- 3. After clicking the down arrow for the font, select from each of the installed fonts on your computer. Click the font you want to use, and the text in the selected cell changes.

libri - 11 -	$A^{*} A^{*} \equiv \equiv$
Theme Fonts	
Calibri Light	(Headings)
Calibri	(Body)
All Fonts	
Abadi	
Abadi Extra Light	5
Agency FB	
Aharoni	9
Aldhabi	5
ALGERIAN	
Amasis MT Pro	9



## 2.3.2 Changing font size

To change the text size in a Microsoft Excel spreadsheet, follow the steps below.

- 1. Select the cell containing the text you want to change.
- 2. Click the down arrow next to the size box on the format bar. Usually, the default size is 11 or 12, as shown in the image.
- After clicking the down arrow for the size, there is a selection of different sizes to choose.
   Some fonts may not scale properly, so they may have limited size options.

Page 46 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



Calibri	~	11	A A
BI		8	
	Font	9	
	Font	10	
		. 11	
в	C	12	1 3
		14	
		16	
		18	
		20	
		22	
		24	
		26	
		28	

Fig 2.7 font size

## 2.3.3 Changing font color

J,

To change the text color in a Microsoft Excel spreadsheet, follow the steps below.

- 1. Select the cell containing the text you want to change.
- 2. Click the down arrow next to the text color icon. It is usually displayed as the letter "A" with a red underline, as shown in the image.
- After clicking the down arrow for the text color, select the color you want to make the text. If you want a different color than is available in the drop-down menu, click the More Colors option (indicated by green arrow). Select the desired color in the *Colors* window, and click OK.

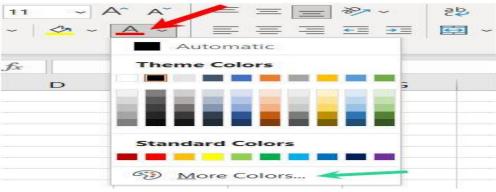


Fig 2.8 font color

## 2.3.4 Changing cell background color

To change the cell background color within a Microsoft Excel spreadsheet, follow the steps below.

1. Click the down arrow next to the cell color icon. It is usually displayed as tipping paint can with a yellow underline, as shown in the image.

Page 47 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



2. After clicking the down arrow for the cell color, select the color you want to make the cell background. If you want a different color than is available in the drop-down menu, click the More Colors option (indicated by green arrow). Select the desired color in the *Colors* window, and click OK.

~ 11	~ A~ = =	= ~~~
Font	Theme Colors	nment
Fac		G
	Standard Colors	
	Recent Colors	
	No Fill	
	More Colors	<

# Fig 2.9 Background color Changing cell border

By default, a cell does not have a border. To change the cell border in a Microsoft Excel spreadsheet, follow the steps below.

- 1. Select the cell you want to add a border.
- 2. Click the down arrow next to the cell border icon. It is usually displayed as a four-pane window, as shown in the image above.
- 3. After clicking the down arrow for the cell border, select the border type you want to set for the cell.



## Fig 2.10 border

Page 48 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



- 4. The cell border color, click the Line Color option at the bottom of the drop-down menu.
- 5. To change the cell border type, click the Line Style option at the bottom of the dropdown menu

## 2.4 Change alignment and line spacing Text alignment

By default, any text entered into your worksheet will be aligned to the bottom-left of a cell, while any numbers will be aligned to the bottom-right. Changing the alignment of your cell content allows you to choose how the content is displayed in any cell, which can make your cell content easier to read.



Click the arrows in the slideshow below to learn more about the different text alignment options.

	А	В	С	D	E			
	First Name	Leef Marrie	Email Address					
1	First Name	Last Name	Email Address					
2								
Le	$\blacksquare \equiv \blacksquare$ Left Align: Aligns content to the left border of the cell							
	A	В	С	D	E			
1	First Name	Last Name	Email Address					
2								

2				

Center Align: Aligns content an equal distance from the left and right borders of the cell

	А	В	С	D	E	
1	First Name	Last Name	Email Address			
2						
			= = =			

Right Align: Aligns content to the right border of the cell

Page 49 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



	Α	В	С	D	E	
	First Name	Last Name	Email Address			
1						
2						

#### Top Align: Aligns content to the top border of the cell

	А	В	С	D	E	
	First Name	Last Name	Email Address			
1						
2						

Middle Align: Aligns content an equal distance from the top and bottom borders of the cell

	A	В	С	D	E				
1	First Name	Last Name	Email Address						
2									

Bottom Align: Aligns content to the bottom border of the cell

• You can apply both vertical and horizontal alignment settings to any cell.

# 2.5 Modify margin sizes

A margin is the space between your content and the edge of the page. Sometimes you may need to adjust the margins to make your data fit more comfortably. You can modify page margins from the Print pane.

- 1. Navigate to the Print pane.
- Select the desired margin size from the Page Margins drop-down menu. In our example, we'll select Narrow Margins.

Page 50 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
	Author/Copyright		Version: 1



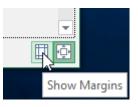
Settir	ngs	
	Print Selection Only print the current selecti	-
Pages	÷ to ÷	
	Collated 1,2,3 1,2,3 1,2,3	-
	Landscape Orientation	-
-	Custom Page Size	-
	Normal Margins Left 0.7" Right 0.7"	-
	Top: 0.75" Bottom: Left: 0.7" Right: Header: 0.3" Foote:	0.7"
	Top: 1" Bottom: Left: 1" Right: Header: 0.5" Footer:	
1	Top: 0.75: Bottom: Left: 0.25: Bight: Header: 0.3: Footer:	0.25"
	istom Margins	

# Fig 2.11 print pane

3. The new page margins will be displayed in the Preview pane.

NAME		AUGUST		SEPTE MBE R		OCTOBER	NOVEMBER		DECEMBER		TOTAL
Ross, May	\$	9,590.00		257.00		8,210.00	7,750.00		4,275.00		68,698.00
togan, Kalia	\$	8,430.00		7,882.00		4,876.00	885.00			5	68,096.00
Jemons, Amela	\$	9,590.00		257.00		8,210.00	7,700.00			5	68,048.00
tuff, Am y	\$	7,430.00		7,882.00		4,876.00	1,885.00		4,996.00 💅	<b>r s</b>	67,988.00
Doyle, Lani	\$	7,621.00		3,435.00		8,015.00	5,248.00			<b>S</b>	67,896.00
Wolina, Zeus	\$	7,042.00		9,293.00		9,779.00	7,042.00			<b>r s</b>	67,219.00
Guthrie, Mone	\$	7,042.00		3,373.00		4,383.00	3,425.00			5	67,094.00
illis, Breanna	s	8,210.00		7,750.00		6,302.00	358.00		9,943.00 💅	5	66,549.00
ternandez, Vivien	\$	5,319.00		8,891.00		4,996.00	8,430.00		7,882.00	<b>S</b>	66,489.00
Murphy, Haviva	\$	7,803.00		6,076.00		1,928.00	6,595.00			5	65,785.00
owe, Morgan	\$	1,112.00		2,516.00		7,565.00	6,256.00	-		7.5	65,518.00
arrish, Urielle	\$	4,653.00		9,474.00		8,517.00	5,233.00			5	65,158.00
Brewer, Rachel	\$	6,861.00	-	3,889.00	-	3,527.00	5,575.00		4,046.00 髮	2.5	64,507.00
arsen, Alden	\$	9,632.00		7,803.00		4,548.00	619.00			5	64,348.00
Viller, Evangeline	\$	4,876.00		1,885.00		666.00	6,210.00			5	64,201.00
Conred, Chenning	\$	358.00		9,943.00		4,964.00	9,778.00			<b>S</b>	64,164.00
isher, Clio	\$	5,575.00		4,046.00		8,910.00	8,369.00			5	64,144.00
D'Connor, Hayden	\$	4,964.00		9,778.00		3,527.00	5, 575.00			<b>7</b> S	63,939.00
Ayala, Kendal I	\$	7,619.00		2,410.00		666.00	6,210.00			r \$	63,535.00
Curry, Em ma	\$	3,588.00	\$	1,912.00	\$	1,413.00	\$ 6,759.00	\$	9,019.00 髮	5	63,468.00

You can adjust the margins manually by clicking the Show Margins button in the lower-right corner, then dragging the margin markers in the Preview pane.



Page 51 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



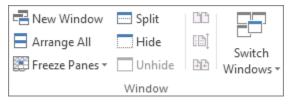
# 2.6 View multiple spreadsheets concurrently

## View multiple spreadsheet concurrent

You can also arrange multiple worksheets to view them all at the same time.

View two worksheets in the same workbook side by side

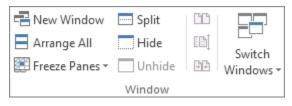
1. On the View tab, in the Window group, click New Window.



- 2. On the View tab, in the Window group, click View Side by Side Dia.
- 3. In each workbook window, click the sheet that you want to compare.
- 4. To scroll both worksheets at the same time, click **Synchronous Scrolling** in the **Window** group on the **View** tab.

View two worksheets of different workbooks side by side

- 1. Open both of the workbooks that contain the worksheets that you want to compare.
- 2. On the View tab, in the Window group, click View Side by Side D.



If you have more than two workbooks open, Excel displays the **Compare Side by Side** dialog box. In this dialog box, under Compare Side by Side with, click the workbook

that contains the worksheet that you want to compare with your active worksheet, and then click **OK**.

- 3. In each workbook window, click the sheet that you want to compare.
- 4. To scroll both worksheets at the same time, click **Synchronous Scrolling** in the **Window** group on the **View** tab.

View multiple worksheets at the same time

1. Open one or more workbooks that contain the worksheets that you want to view at the same time.

Page 52 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



- 2. Do one of the following:
  - If the worksheets that you want to view are in the same workbook, do the following:
    - i. Click a worksheet that you want to view.
    - ii. On the View tab, in the Window group, click New Window.

🖶 New Window	🔤 Split	ĽĽ	
📃 Arrange All	Hide		Switch
📰 Freeze Panes 🔻	🗌 Unhide	++	Windows •
	Window		

- iii. Repeat steps 1 and 2 for each sheet that you want to view.
- If the worksheets that you want to view are in different workbooks, continue with step 3.
- 3. On the View tab, in the Window group, click Arrange All.
- 4. Under Arrange, click the option that you want.
- 5. If the sheets that you want to view are all located in the active workbook, select the **Windows of active workbook** check box.

Page 53 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



# Self -check 2

Test-I Multiple choices

**Instruction:** Answer the following question and put your answer

1. Which bar is used to display options?

A. Menu B. Function

C. Formula D. Status

2.----- is the space between your content and the edge of the page.

A. page layout B. margin C. print pane D. none

Page 54 of 89	Ministry of Labor and Skills	Operate Spreadsheet Application	Date: September 2022
			Version: 1
	Author/Copyright		



# **Unit Three: Format spreadsheet**

This unit to provide you the necessary information regarding the following content coverage and topics:

- Use format features and tools
- Insert headers and footers

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Use format features and tools
- Insert headers and footers

Page 55 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



# 3.1 Use format features and tools

Formatting in Excel means a trick that we can use to modify the data's appearance in a worksheet. We can format the data in various ways, like we can format the font of the cells or the table with the help of the styles and **format tab** present in the **Home tab**.

Excel formatting is an optional step following data preparation, or all of the **data cleansing**, **structuring**, **enriching**, and **standardizing** necessary to prepare the data for analysis

format cells is used to modify the formatting of cell numbers without modifying the actual number. With the help of the format cells, we can change the **number**, **alignment**, **font style**, **Border style**, **Fill options**, and **Protection**.

## Good formatting will improve our data in various ways:

- With the help of the formatting, we can present our data correctly; for example, formatting as **dates** or **currency** will provide more value to our data.
- Merging and aligning our data is a vital aspect of making our data more readable.
- Formatting our text by **increasing the Size, bolding, adding italics,** or **changing the fonts** will improve the overall appearance of our worksheet.
- Using styles (like table styles) can make our data stand out and helps the reader to focus on crucial portions of the worksheet.
- **Conditional formatting** is a useful tool for highlighting crucial portions of our worksheet graphically or visibly. These are dynamic tools. The Highlighted region changes as our data changes.

## **Benefits of Data Formatting in Excel**

The following are some of the benefits of Excel data formatting:

- The data appears to be more presentable.
- Data formatting saves a lot of time and effort.

Page 56 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



- With the help of the chart, we can analyze the data.
- With the help of the formatting, we can highlight specific data such as profit or loss in business. Now,

## In order to format data in Excel, we'll do the following things:

- The Font size is **larger**.
- We make the text of the column head **bold**
- **Center aligning** the data
- We will apply the outline border with the help of the shortcut that is (Alt+H+B+T),
- After selecting the full table (**using Ctrl+A**), use the shortcut key (**Alt+H+O+I**) to adjust the column width.
- To alter the background, use the 'Fill Color' command in the 'Font' group on 'Home'

# **3.2 Insert headers and footers**

## The purpose of Header and Footer in Excel

The purpose is similar to that of hard copy documents or books. The headers and footers in Excel help meet the standard representation format of the documents and/or worksheets. In addition, they add a sense of organization to the soft documents and/or

worksheets.

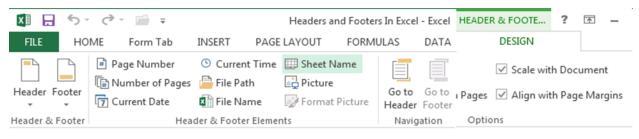


Fig 3.1 header and footer tools

#### 3.1.1 Create a Header in Excel

**Step1.**First, click the worksheet where we want to add or change the header. Then, go to the "Insert tab" -"Text" group – "Header & Footer."

Page 57 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



FILE	HOME F	orm Tab IN	SERT P	PAGE LAYO	UT F	ORMULAS	DATA	RE'
Tables Illust	trations Add- ins *	Recommende Charts	ed ∰ ~ Char	Hyperlink Links	Text	Symbols		~
B12 A	- : B	~	on Heade Sooter	Box	Heade & Foot		gnature Ob Line -	ject
2					Header	8 Footer		
3				_	The cor	ntent of the he	ader and	
4				_		epeats at the t		
5				_	bottom	of each printe	ed page.	
6				_	This is a	useful for show	vcasing info	
7						e name, date a		
8					0 -			
9					7 Tel	l me more		
10								

Fig 3.2 header and footer

Step2.Clicking on it would open a new window, as shown below.





#### Fig 3.3 header and footer text

**Step3**.As shown in the screenshot below, "Header & Footer Tools" has a "Design" tab containing various text options to put as the header. The default is an empty text box wherein we can enter a free text, e.g., "This is the header text." The other options are "Page Number," "Number of Pages," "Current Date," "Current Time," "File Path," "File Name," "Sheet Name," "Picture," etc.

c⇒ - i = -			Book1 -	Excel				HEADER	& FOOTER	TOOLS
ME Form Tab	INSERT	PAGE LAYOUT	FORM	ULAS	DATA	REVIEW	VIEW		DESIGN	
Page Number Pages Current Date	📇 File Path 🖬 File Nam	e 📝 Format			Go to Footer		nt First Page nt Odd & Eve	n Pages	-	
Hea	der & Footer E	lements		Navig	jation			Option	ns	
• : 🗙 🗸	$f_x$									
1	1	2		3		4	5		6	- I
S	Т	U	V	w		x	Y	z	AA	
Header										
				This is a	a Heade	r Text				

Fig 3.4 header name

Page 58 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



#### 3.1.2 Create Footer in Excel

**Step1.**We must first click the worksheet where we want to add or change the header. Then, go to the "Insert" tab -> "Text" group -> "Header & Footer."

FI	LE	HOME	Fo	rm Tab	INSERT	PAGE LAYO	UT	FORMULAS	DATA	RE
Tabl		r strations ▼	<b>a</b> Add- ins ₹	Recomm Cha		Hyperlink	A Text	Ω Symbols *		~
B1	2	Ŧ	: >	< Cli	ick on Head & Footer			~		
	А		В	C	D	Box	Hea & Fo	der WordArt Si <mark>oter</mark> ~	ignature Ol Line≖	bject
1								Text		
2							Hear	ler & Footer		
3										
4								content of the he		
5								r repeats at the		
6							DOTTO	om of each print	eu page.	
-							This	is useful for show	wcasing inf	0.
7								file name, date		
8										
9							? 1	ell me more		
10										

Fig 3.5 header and footer

Step2.Clicking on it would open a new window, as shown. As shown in the screenshot below,

"Header & Footer Tools" has a "Design" tab containing various text options to put as the header.

The default is an empty text box wherein you can enter a free text, e.g., "This is the Footer text." The other options are "Page Number," "Number of Pages," "Current Date," "Current Time," "File Path," "File Name," "Sheet Name," "Picture," etc.

~ I ~	<b>—</b>		Headers and	d Footer	s In Excel	- Excel			HEADE	R & FOOTE
OME	Form Tab	INSERT PAGE	LAYOUT	FORM	JLAS	DATA	REVIEW	VIEW		DESIGN
E Nur		Current Time File Path File Name	🖽 Sheet Nar 🔂 Picture 🎲 Format P		Go to Header			t First Page t Odd & Eve		<ul><li>✓ Scale with</li><li>✓ Align with</li></ul>
r	Hea	der & Footer Eleme	nts		Navig	ation			Optio	ons
▼ : [	×	f <sub>x</sub>	2	1 . 1	3		4	5	1.1.	6
	A		в		C			D		
				Th	is is the	Footer	Text			
	Footer									

Fig 3.6 footer name

## **Remove Header and Footer in**

**Step1.**We must first launch the "Page Setup" dialog box from the "Page Setup" box under the "Page Layout" menu.

Page 59 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



FILE	HOME	Form Tab	INSERT	PAGE LA	YOUT	FORMULAS	DATA	REVIEW	۷I ۲
Themes	Margin	Crientatic I Size + B Print Area Page Se	🐼 Bao	aks ▼ ckground nt Titles		Click on this to open Page Dialog B	Setup	Arrange	~
W55	•	× ✓	fx 1 T			Don't se	ee what you out the full s ing options.		r?
47						atong gan. •			

Fig3.7 page setup

• Then, go to the "Header/Footer" section.

age Setup	? <mark>- ×</mark>
Page Margins	Header/Footer Sheet
Header:	Click on Header/Footer Section
This is a Header Tex	t 🔹
Eooter:	Custom Header Custom Footer
	This is the Footer Text
Different odd an	
Different first particular different first pa	-
Align with page	
	OK Cancel

Fig 3.8 header and footer section

• Select 'none' for "Header" and/or "Footer" to remove the respective feature.

Page 60 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



## Self-check-3

Test I: short Answer writing

Instruction: write short answer for the given question. You are provided 2minutes for each question and each point has 3 Points.

1. Write the purpose of header and footer in excel?

2.what is formatting in excel?

- 3.write Benefits of data formatting?
- 4.write good way of improve formatting?

Page 61 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



# **Operation title 3:** Format spreadsheet

## Purpose: -

- To familiarize with Microsoft excel 2016 environment.
- To know how to work format cell, enter data and insert header and footer in spreadsheet.

**Instruction:** The Given necessary equipment, tools and materials you are follow the necessary steps and operate each task. You have given 1:30 hour for the task and you are expected to write the answer task.

**Task1**:Use the given figure below (3.9),and based on the use of following information format cell(number=General, text alignment=center, font type=caliberia,font styl=Bold,font size=15 and font color=15).For this operation you have given 1 hour and you are expected to provide the answer on the given task.

**Tools and requirement: -** ICT room, computer, Printer, A4 paper, Mouse and keyboard, Monitor, Basic Software, Documents and pen/pencil.

Precautions: Microsoft office is install.

## **Procedures:-in doing the task**

**Step-1:** Click on start  $\rightarrow$  All Application $\rightarrow$ Click Microsoft office excel 2016  $\rightarrow$  click blank document

Step-2: enter data in to cell

Step-3: edit column and row

**Step-4:** To change the format

Step-5: insert header and footer

Step-6: Remove header and footer

Step-7: custom header and footer

Step-8: To use a custom page size.

Step-11: save as you want location and name

Quality Criteria: based on the given information the document is done

Page 62 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



1	A	В	С	D	E	F	G	н
1	City	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2	Delhi	45	35	30	45	44	23	36
3	Pune	33	38	27	32	46	28	45
4	Banglore	44	47	46	36	37	38	32
5	Mumbai	39	46	44	28	29	42	28
6	Nainital	27	26	36	35	39	21	44

Fig 3.9 excel document

Page 63 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



# LAP Test 3

#### **Practical Demonstration**

**Instruction I:** Given necessary equipment, tools and materials you are required to perform the following tasks within 1hours.

Instruction: The given necessary equipment, tools and materials you are follow the necessary steps and operate each task. You have given 1hour for the task and you are expected to write the answer **Task1:** To open MS office excel 2016 then Create a new blank document and save it as name format\_spreadsheet on your desktop. Use of following information column header name (Id,Tname,sex,age,phone number,address & date of birth),header name="WDDA" and footer name="Next"format cell(number=General, text alignment=cent, font type=caliberia,font styl=Bold,font size=20 and font color=green) and for column header name use appropriate change format then based on the given information to prepare the document,Remove header and footer custom header and footer. For this operation you have given 1:30 hour and you are expected to provide the answer on the given.

Page 64 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



# Unit Four: Incorporate object and chart in spreadsheet

This unit to provide you the necessary information regarding the following content coverage and topics:

- Import an object into spreadsheet
- Create a chart using selected data in the spreadsheet
- Display selected data in a different chart
- This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:
- Import an object into spreadsheet
- Create a chart using selected data in the spreadsheet
- Display selected data in a different chart

Page 65 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



# 4.1 Import an object into spreadsheet

In Microsoft Excel, the "Object Insert" option allows a user to insert an external object into a worksheet. Embedding generally means inserting an object from another software (Word, PDF, etc.) into an Excel worksheet. This option is useful for direct access to files related to your worksheet data from within your worksheet space. In addition, the inserted object works as a ready information source or reference for a dataset in an Excel worksheet.

## Insert (Embed) an Object in Excel

1. We must first select "Text" from the "Insert" tab and then click "Object."

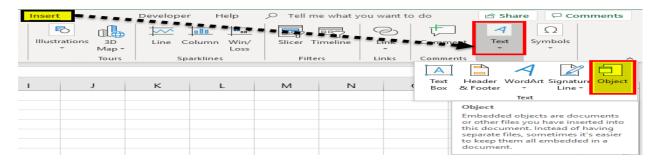


Fig 4.1 object tab

2. Then, select "Create New" to embed a new blank file. Remember, only file types are shown in "Object type" that can be embedded in the Excel worksheet.

			2	$\sim$
Create New 0	Create from File			
Microsoft Pow Microsoft Pow Microsoft Pow	erPoint 97-2003 Presentation erPoint 97-2003 Slide erPoint Macro-Enabled Presentation erPoint Macro-Enabled Slide erPoint Presentation	Displ <u>ay</u> as icon		

Fig 4.2 object type

3. Now, choose a file type to embed. For example, we have selected a "Microsoft Word Document," now click "OK."

Page 66 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



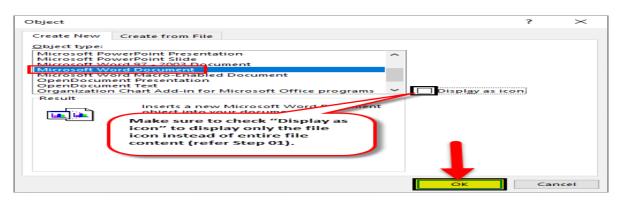


Fig 4.3 display as icon

Step 1: Select "Text" from the "Insert" tab and click "Object."

Inser		Developer	Help		e what you	want to do	🖻 Share 🛛 🖓 Comments
	rations 3D Tours		olumn Win/ Loss	Slicer Ti			Text Symbols
1	J	к	L	М	N	( Box	
							Object Embedded objects are documents or other files you have inserted into this document. Instead of having separate files, sometimes it's easier to keep them all embedded in a document.

Fig 4.4 text

**Step 2:** Select **"Create from File"** and click **"Browse"** to embed an existing file into the worksheet. Remember, only file types are shown in "Object Type" that can be embedded in the Excel worksheet.

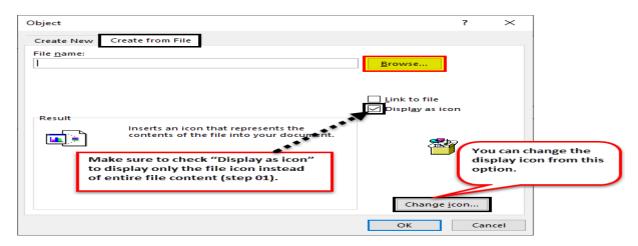


Fig 4.5 browse

Page 67 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



Step 3: Now click "OK." The file icon will be displayed on the worksheet.

F	G H Double Click on this document
	Microsoft Word
	Document

Fig 4.6 object icon

**NOTE:** If we do not check the "Display as icon" option, it will show the embedded file's content instead of the icon. We can double-click on the embedded file icon or content to edit the content of the embedded file.

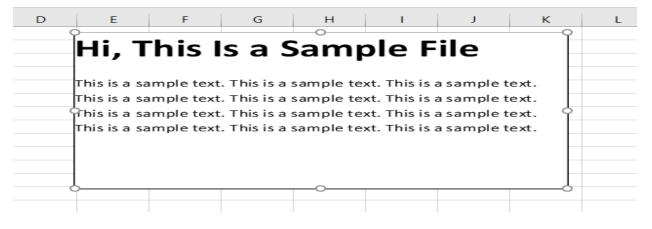
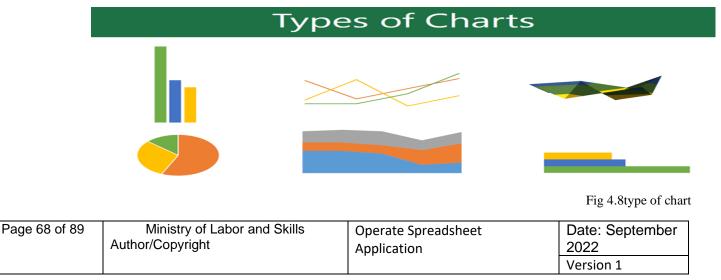


Fig 4.7 display icon

# 4.2 Create a chart using selected data in the spreadsheet

Excel has several different **types of charts**, allowing you to choose the one that best fits your data. In order to use charts effectively, you'll need to understand how different charts are used.





Excel has a variety of chart types, each with its own advantages. Click the arrows to see some of the different types of charts available in Excel.

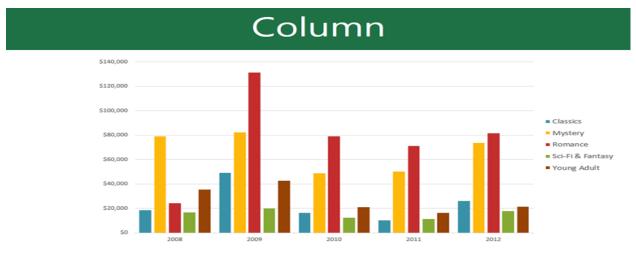
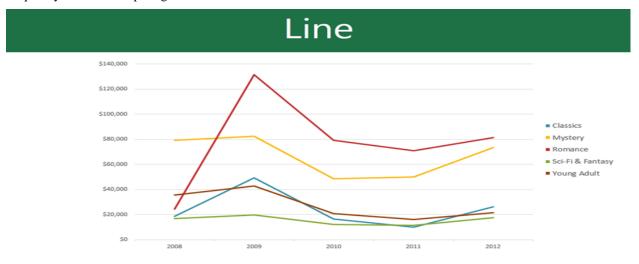
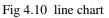


Fig 4.9 column chart

Column charts use vertical bars to represent data. They can work with many different types of data, but they're most frequently used for comparing information.





Line charts are ideal for showing trends. The data points are connected with lines, making it easy to see whether values are increasing or decreasing over time.

Page 69 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1





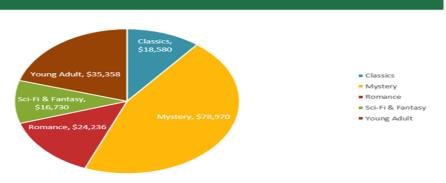
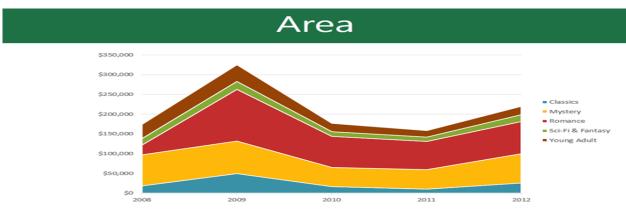


Fig 4.11 pie chart

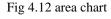
Pie charts make it easy to compare proportions. Each value is shown as a slice of the pie, so it's easy to see which values make up the percentage of a whole.







Bar charts work just like column charts, but they use horizontal rather than vertical bars.



Page 70 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



Area charts are similar to line charts, except the areas under the lines are filled in.

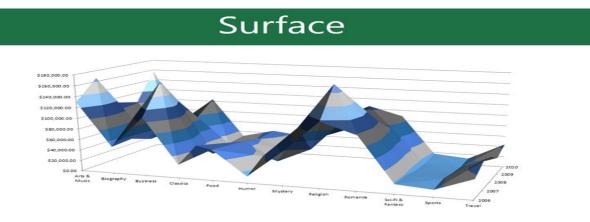


Fig 4.13 surface are

Surface charts allow you to display data across a 3D landscape. They work best with large data sets, allowing you to see a variety of information at the same time.

In addition to chart types, you'll need to understand how to **read a chart**. Charts contain several different elements, or parts, that can help you interpret the data.



Fig 4.15 insert data in to worksheet

## To insert a chart:

1. Select the **cells** you want to chart, including the **column titles** and **row labels**. These cells will be the source data for the chart. In our example, we'll select cells A1:F6.

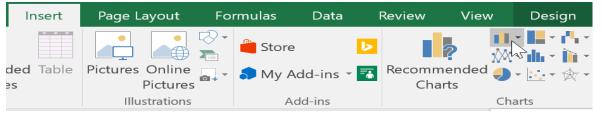
Page 71 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



	А	В	С	D	E	F	G
1	Genre 🔽	January 🗾 💌	February 🗾 💌	March 🗾	April 🗾	May 🔽	
2	Classics	\$18,580	\$49,225	\$16,326	\$10,017	\$26,134	
3	Mystery	\$78,970	\$82,262	\$48,640	\$49,985	\$73,428	
4	Romance	\$24,236	\$131,390	\$79,022	\$71,009	\$81,474	
5	Sci-Fi & Fantasy	\$16,730	\$19,730	\$12,109	\$11,355	\$17,686	
6	Young Adult	\$35,358	\$42,685	\$20,893	\$16,065	\$21,388	
7							<b>E</b>
8							

Fig 4.16 source data

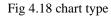
#### 2. From the Insert tab, click the desired Chart command. In our example, we'll select Column.



## Fig4. 17 chart command

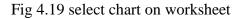
3. Choose the desired **chart type** from the drop-down menu.

Recommended Charts	
E April 26 \$10,0 10 \$49,9 20 \$20 Chart	3-D Column 
	Bar More Column Charts



4. The Selected chart will be inserted into the worksheet.

3 Mys 4 Ron 5 Sci-	ssics vstery mance -Fi & Fantasy	\$18,580 \$78,970 \$24,236	\$49,225 \$82,262	\$16,326	\$10,017	May		
3 Mys 4 Ron 5 Sci-	vstery mance -Fi & Fantasy	\$78,970 \$24,236	\$82,262					
4 Ron 5 Sci-	mance -Fi & Fantasy	\$24,236		\$48,640				
5 Sci-	-Fi & Fantasy				\$49,985	\$73,428		
			\$131,390	\$79,022	\$71,009	\$81,474		
6 You		\$16,730	\$19,730		\$11,355	\$17,686		
	ung Adult	\$35,358	\$42,685	\$20,893	\$16,065	\$21,388		
7			9		0	T		9
8					Chart Titl	e		-
9			\$140,000					
10					_			
11			\$120,000					
12			\$100,000					
13			\$80,000			_		
14						-		
15			\$60,000					Ť
16			\$40,000				_	
17			\$20,000					
18								
19			\$0	Classics M	vsterv Roma	nce Sci-Fi & Fantasy	Young Adult	
20				Classics M	ystery Roma	nce Sci-Fi & Fantasy	Young Adult	
21				January	🗕 February 🛛 🔳 Mar	ch 🔲 April 📕 May		
22			0		0			-0



Page 72 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



If you're not sure which type of chart to use, the **Recommended Charts** command will suggest several different charts based on the source data.

Insert	Page Layout	Formulas	Data	Review	View	♀ Tell me
ided Table	Pictures Online Pictures Illustrations			Recomm	ended 🧈	• • • • • • • • • • • • • • • • • • •

Fig 4.20 Recommended chart

#### Chart and layout style

After inserting a chart, there are several things you may want to change about the way your data is displayed. It's easy to edit a chart's **layout** and **style** from the **Design** tab.

Excel allows you to add chart elements—such as chart titles, legends, and data labels—to make your chart easier to read. To add a chart element, click the Add Chart
 Element command on the Design tab, then choose the desired element from the drop-down menu.

	Chart Quick		the line of the line of the line line line line line line line lin
LCDDa.	Axes	<b>P</b> -	
OLCEICS.	Axis Titles	-	
Litteri.	<u>Chart Title</u>	-	Nepe
LEBON.	Data Labels	-	
(CE)CO	Data Ta <u>b</u> le	-	Above Chart
Leffice.	Error Bars	-	Centered Overlay
120035	Gridlines	-	
Leffra.000	Legend	-	More Title Options
Lengt	Lines	100-	
·····	Trendline	-	Chart Ti
$= -2e^{-2E} - 2$	Up/Down Bars		

Fig 4.21 chart chart layout

To edit a chart element, like a chart title, simply double-click the placeholder and begin typing.

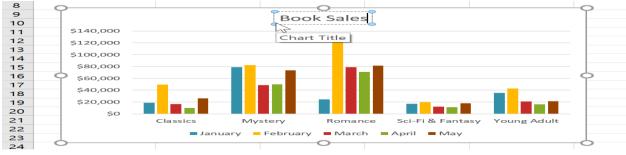


Fig 4.22 chart element

Page 73 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



If you don't want to add chart elements individually, you can use one of Excel's predefined layouts. Simply click the **Quick Layout** command, then choose the **desired layout** from the drop-down menu.

Add	Chart	Quick	Change	alast the start	
Elem	nent -	Layout -	Colors -	Theorem Tribury Stratic Start Stray	
C	hart La				
Cha	art 4				
		_1			C
1	Genre				lar
2	Classi				17
з	Myst			ayout 5	5
4	Roma				\$1
5	Sci-Fi				5
6	Youn				5
7					
8	0		'   = <u>  </u>		
9		1			
10					

Fig 4.23 Quick layout

Excel also includes several **chart styles**, which allow you to quickly modify the look and feel of your chart. To change the chart style, select the **desired style** from the **Chart styles** group. You can also click the drop-down arrow on the right to see more styles.

		Bookstore S	ales - Excel			Cha	rt Tools					
Insert	Page Layout	Formulas	Data	Review	View	Design	Format	Qт		hat you	want to	
		15 1 345	CHART TITLE These shares give give give the state of the state give give give the state of the state give give give give give give give giv				Our The set of the set set of the set of the set set of the set of the set of the set of	and the		ll na tha		
					Chart Styles							
$\times$	$\checkmark f_X$										Style 8	
B	C February		D T Apri	E	F May	- Q	G H	ł	T		L	к

Fig 4.24 Chart style

You can also use the chart formatting shortcut buttons to quickly **add chart elements**, change the **chart style**, and **filter** the chart data.

Page 74 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



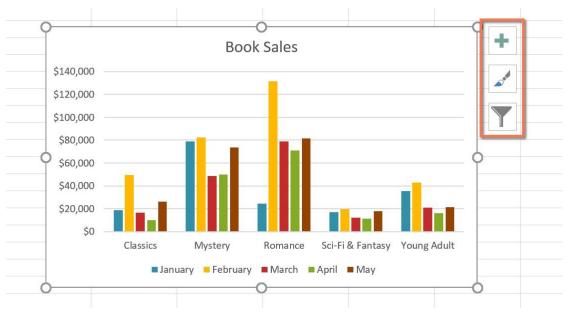
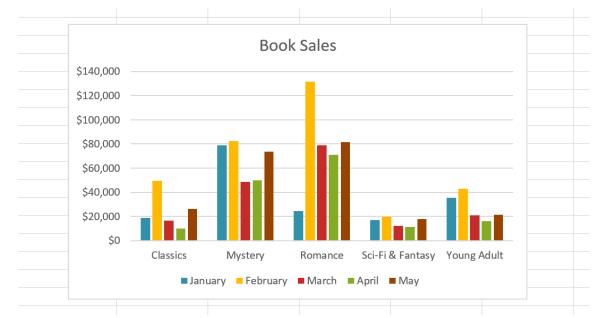


Fig 4.25 add chart element

There are many other ways to customize and organize your charts. For example, Excel allows you to **rearrange** a chart's data, change the **chart type**, and even **move** the chart to a different location in a workbook.

To switch row and column data:

Sometimes you may want to change the way charts **group** your data. For example, in the chart below Book Sales data is grouped **by genre**, with columns for **each month**. However, we could switch the rows and columns so the chart will group the data **by month**, with columns for **each genre**. In both cases, the chart contains the same data—it's just organized differently.



Page 75 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



- 1. Select the **chart** you want to modify.
- 2. From the **Design** tab, select the **Switch Row/Column** command.

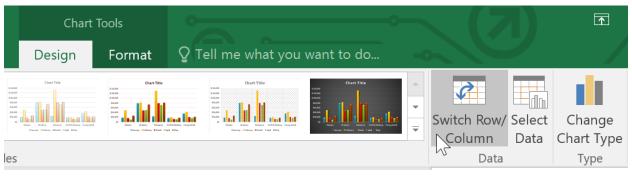
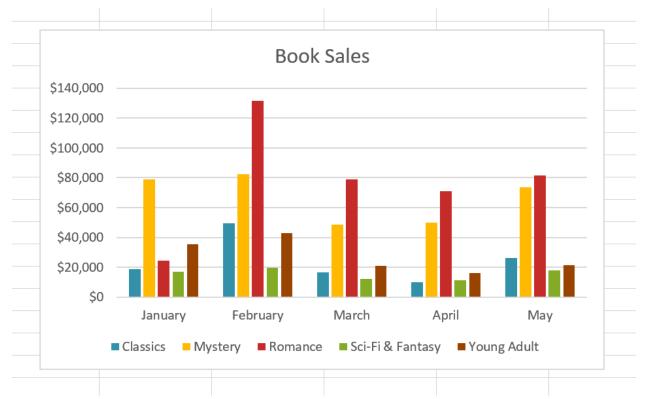


Fig 4.26 switch row /column

3. The rows and columns will be **switched**. In our example, the data is now grouped by month, with columns for each genre.



### To change the chart type:

If you find that your data isn't well suited to a certain chart, it's easy to switch to a new chart type. In our example, we'll change our chart from a column chart to a line chart.

1. From the **Design** tab, click the **Change Chart Type** command.

Page 76 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



Chart T	ōols	0-		0-		(7	$\mathbf{T}$	-
Design	Format	₽ Te	ell me what you	want to do				
Crart Yife Unit Yife	Churt Tife	and the second	Chart Tille		•	Switch Row/ Column Data	Change Chart Type Type	Move Chart Location

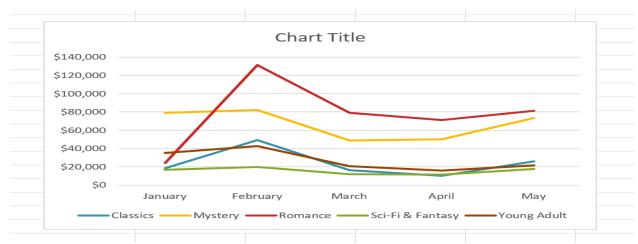
Fig 4.26 chart type command

2. The **Change Chart Type** dialog box will appear. Select a new chart **type** and **layout**, then click **OK**. In our example, we'll choose a **Line** chart.

Chang	ge Chart Type		?	$\times$
Recon	nmended Charts All	Charts		
	Recent Recent Templates Column Line Pie Bar Area X Y (Scatter) Stock Surface Radar Treemap Sunburst Histogram Box & Whisker Waterfall	Line Book Sales billion bil	May Young Astur	
Lefficia.	Combo	ok 🖓	Ce	incel

Fig 4.27 chart type dialog box

3. The selected chart type will appear. In our example, the line chart makes it easier to see trends in sales data over time.



Page 77 of 89	Ministry of Labor and Skills Author/Copyright	Operate Spreadsheet Application	Date: September 2022
			Version 1



#### To move a chart:

Whenever you insert a new chart, it will appear as an object on the same worksheet that contains its source data. Alternatively, you can **move** the chart to a **new worksheet** to help keep your data organized.

- 1. Select the **chart** you want to move.
- 2. Click the **Design** tab, then select the **Move Chart** command.



Fig 4.28 move chart command

- 3. The **Move Chart** dialog box will appear. Select the **desired location** for the chart. In our example, we'll choose to move it to a **New sheet**, which will create a new worksheet.
- 4. Click OK.



Fig 4.29 move chart

5. The chart will appear in the selected location. In our example, the chart now appears on a new worksheet.

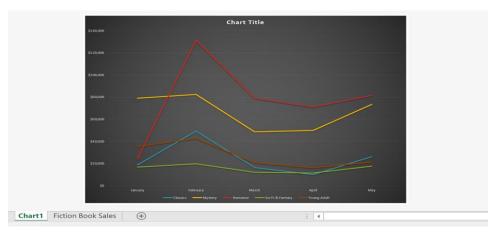


Fig 4.30 new worksheet chart

Page 78 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



#### Self-check-4

Test-I Multiple choices

Instruction: Answer the following questions and put your answer.

- 1. What do you use to create a chart?
  - A. Pie Wizard C. Data Wizard
  - B. Excel WizardD. Chart Wizard
- 2. How will you graphically represent expenditure in different departments ?
  - A. Column Chart C. Pie Chart
  - B. Line Chart D. Dot Char
- 3. What type of chart is good for single series of data ?
  - A. Column Chart C. Pie Chart
  - B. Line Chart D. Cone Chart
- 4. What type of chart will you use to compare performance of sales of two products ?
  - A. Column Chart
  - B. Line Chart
  - C. Pie Chart
  - D. Both A and B

Page 79 of 89	Ministry of Labor and Skills	Operate Spreadsheet	Date: September
	Author/Copyright	Application	2022
			Version 1



Operation title 4.1 Import an object into spreadsheet

Purpose: -

•To know how to work object import into the worksheet

**Instruction:** The Given necessary equipment, tools and materials you are follow the necessary steps and operate each task. You have given 30 mint for the task and you are expected to write the answer task.

**Task1:** open a new workbook and save the file with the name "object" to import object into the excel. For this operation you have given 1 hour and you are expected to provide the answer on the given task.

Tools and requirement: - ICT room, computer, Printer, A4 paper, Mouse and keyboard, Monitor, Basic Software, Documents and pen/pencil.

Precautions: import object into excel.

Procedures:-in doing the task

Step-1: Click on start  $\rightarrow$  All Application $\rightarrow$ Click Microsoft office excel 2016  $\rightarrow$  click blank document

Step-2: click insert

Step-3: click text

Step-4: select object create new document or from existing file.

Step-4: display as icon ----→ok

Page 80 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills Author/Copyright		September, 2022



**Operation title 4** import an object into spreadsheet

## Purpose: -

- To familiarize type of chart.
- To know how to work create a chart select data into spreadsheet.

**Instruction:** The Given necessary equipment, tools and materials you are follow the necessary steps and operate each task. You have given 1 hour for the task and you are expected to write the answer task.

**Task1**:Use the given figure below (3.17) ,open a new workbook and save the file with the name "chart" to prepare the document then create a chart select data into spreadsheet by all type of chart. For this operation you have given 1 hour and you are expected to provide the answer on the given task.

**Tools and requirement: -** ICT room, computer, Printer, A4 paper, Mouse and keyboard, Monitor, Basic Software, Documents and pen/pencil.

Precautions: Microsoft office excel is install.

# **Procedures:-in doing the task**

**Step-1:** Click on start  $\rightarrow$  All Application $\rightarrow$ Click Microsoft office excel 2016  $\rightarrow$  click blank document

Step-2: select the cell you want to chart

Step-3: from insert click chart command

Step-4: choose chart type

Step-5: select chart will be inserted into worksheet

1	A	В	С	D	E	F	G	н
1	City	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
2	Delhi	45	35	30	45	44	23	36
3	Pune	33	38	27	32	46	28	45
4	Banglore	44	47	46	36	37	38	32
5	Mumbai	39	46	44	28	29	42	28
6	Nainital	27	26	36	35	39	21	44

Fig 4.31 excel document

Page 81 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022



#### LAP Test 3

### **Practical Demonstration**

**Instruction I:** Given necessary equipment, tools and materials you are required to perform the following tasks within 1hours.

Instruction: The given necessary equipment, tools and materials you are follow the necessary steps and operate each task. You have given 1hour for the task and you are expected to write the answer

**Task1:** To open MS office excel 2016 then Create a new blank document and save it as name object\_chart on your desktop. Use of the following information column name (Id,Tname,sex,age,phone number,address & date of birth),header name="WDDA" and footer name="Next"format cell(number=General, text alignment=cent, font type=caliberia,font styl=Bold,font size=20 and font color=green) and for column header name use appropriate change format then based on the given information to prepare the document,Remove header and footer custom header and footer. For this operation you have given 1:30 hour and you are expected to provide the answer on the given.

**Task2:**based on the task1 information to create a chart by using all type of chart use select data into spreadsheet.

Task3:Adjust chart layout style

Task3:change column chart into line chart

Page 82 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022



# **Unit Five:** Print spreadsheet

This unit to provide you the necessary information regarding the following content coverage and topics:

- Previewing spreadsheet
- Selecting basic printer options
- Printing spreadsheet

This guide will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Previewing spreadsheet in print preview mode
- Selecting basic printer options
- Printing spreadsheet or selected part of spreadsheet

#### 5.1 Previewing spreadsheet

There may be times when you want to **print a workbook** to view and share your data **offline**. Once you've chosen your **page layout** settings, it's easy to preview and print a workbook from Excel using the **Print** pane.

1. Select the File tab. Backstage view will appear.



Fig 5.1 file tab

2. Select **Print**. The **Print** pane will appear.

Page 83 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022

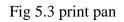


I mifi-ca-
The Internation
Same
Same As
Print
share
Phus be lifes the

### Fig 5.2 Backstage

Click the buttons in the interactive below to learn more about using the Print pane.

	Excel2016_PageLayoutPrint_Practice - Excel	7		$\times$
			Merce	ed Flores
Info	Print			
New	Copies: 1 ‡			-
Open				
Save	Print			_
Save As	Printer <sup>①</sup>		 12111	
Print	Ready			
Share	Printer Properties		2.14 4.0 0	
Export	Settings No. 1			
Publish	Print Active Sheets Only print the active sheets			
Close	Pages:			
Account	Portrait Orientation			
Options	Custom Page Size			
	Left: 0.7" Right: 0.7"			
	No Scaling       100       Print sheets at their actual size			-
	Page Setup 4 1 of 6 🕨			



### Show Margins / Zoom to Page

The Zoom to Page button on the right will zoom in and out in the Preview pane.

The Show Margins button on the left will show the margins in the Preview pane.

Page 84 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022



- 5.2 Selecting basic printer options to printing spreadsheet
  - 1. Navigate to the **Print** pane, then select the desired **printer**.

Prir	nt l
Prin	
Print	
	Ready
	Fax Ready
	Ready
	Microsoft Print to PDF Ready
	Microsoft XPS Document Writer Ready
	Officejet 7110 series @ GCF-Server Ready
	Print to PDF (Mac Desktop) Ready
	Send To OneNote 16 Ready
	Send To OneNote 2013 Ready
	dd Printer
Pr	int to File

Fig select printer name

2. Enter the number of **copies** you want to print.

Print	Ξ
Print	Copies: 1
Printer	(•)
Real	mark MX310dn
	Printer Properties

Fig 5.5 enter number of copy

3. Select any additional **settings** if needed (see above interactive).

5	8 1 /	
Prir	nt l	
Prin		]
Print	er	$\sim$
	Lexmark MX310dn Ready	-
	Printer Propert	ies
Settir	ngs	
	Print Active Sheets Only print the active sheets	-
Pages	\$ to \$	
	Collated 1,2,3 1,2,3 1,2,3	-
	Portrait Orientation	-
-	Custom Page Size	-
	Normal Margins Left: 0.7" Right: 0.7"	-
	No Scaling Print sheets at their actual size	-
	Page Set	up

4. Click **Print**.

Page 85 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022
			-



Print	
Print 🕞	Copies: 1 ‡
Printer	•
Ready	rk MX310dn
-	Printer Properties

Fig 5.6 click print

Page 86 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1	
_	Author/Copyright		September, 2022	



# Self-check-5

Test-I Multiple choices

Instruction: Answer the following questions and put your answer.

- 1. To print a document, press \_\_\_\_\_
  - A. Ctrl+ P
  - B. Alt + p
  - C. Tab+ P
  - D. None of these
- 2. To see the document before the printout is taken, use
  - A. Print Preview
  - B. Format pointer
  - C. Cut
  - D. Paste

Page 87 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022



# Reference

Book (download from google.scholar)

- 1. QuickStart Guide From Beginner to Expert (*Excel, Microsoft Office Series*) by William Fischer, 2016, 1533137951, 9781533137951
- The Unofficial Guide to Microsoft Office Excel 2007 Page 55 JuliaKelly, Curt Simmons · 2007
- Building Financial Models with Microsoft Excel: A Guide for ... K. Scott Proctor · 2004
- Excel 2019 Power Programming with VBA Page 181 Michael Alexander, Dick Kusleika · 2019
- Excel 2013 Power Programming with VBA Page 315 John Walkenbach · 2013
- Excel Formulas and Functions 2020: The Step by Step Excel ... Adam Ramirez · 2020 · Website Link
- 1. https://spreadsheetdaddy.com/excel/how-to-change-line-spacing
- 2. https://www.examtiger.com/mcq/excel-sample-mcq-online-gk-test/page/3/
- 3. https://www.informit.com/articles/article.aspx?p=1326489&seqNum=4
- 4. https://support.microsoft.com/en-us/office/ways-to-format-a-worksheet-d5efbdb5-b79b-475a-8c56-99aad944b030
- 5. https://turbofuture.com/computers/How-to-Format-Spreadsheets-in-Microsoft-Excel
- 6. https://www.venasolutions.com/blog/financial-planning-analysis/how-to-format-your-excel-spreadsheet-10-tips
- 7. https://meritnotes.com/computer-quiz/spreadsheet-mcq/3-633/
- 8. https://support.microsoft.com/en-us/office/change-line-spacing-8690fcda-1a4c-41fe-bf43-439f7c5d3c7a

Page 88 of 89	Ministry of Labor and Skills	Operate spreadsheet application	Version -1
	Author/Copyright		September, 2022



# Participants of this Module (training material) preparation

No	Name	Level	Field of Study	Organization/ Institution	Mobile number	E-mail
1	Abel G/Egziabher	A	Computer Science	MOLS	0911776728	Ab.smart99@gmail.com
2	Endalew Kassa	А	IT	Debremarkos PTC	0913305454	crouchkecho@gmail.com
3	Frew Atkilt	A	Network & Information Security	Bishoftu PTC	0911787374	Frew_at@gmail.com
3	Getnet Alemu	В	IT	Nefasmewucha PTC	0922550906	Getnetalemu783@gmail.com
4	Remedan Mohammed	А	ICT	Harar PTC	0913478937	remedanm77@gmail.com

Page 89 of 89	Ministry of Labor and	Operate spreadsheet application	Version -1
	Skills		September, 2022
	Author/Copyright		-