ALIGARH MUSLIM UNIVERSITY

CSD-IOPI: LABORATORY COURSE - I

SESSION 2023-24

MCA

1st SEMESTER

SAIM SHAKEEL

23CAMSA117

GJ8929

SUBMITTED TO:

MR. NAVED IQBAL

WEEK1

OBJECTIVES

To help the students in learning the practical use of MS-Word, MS-Excel.

OUTCOMES

After completing this, the students would be able to:

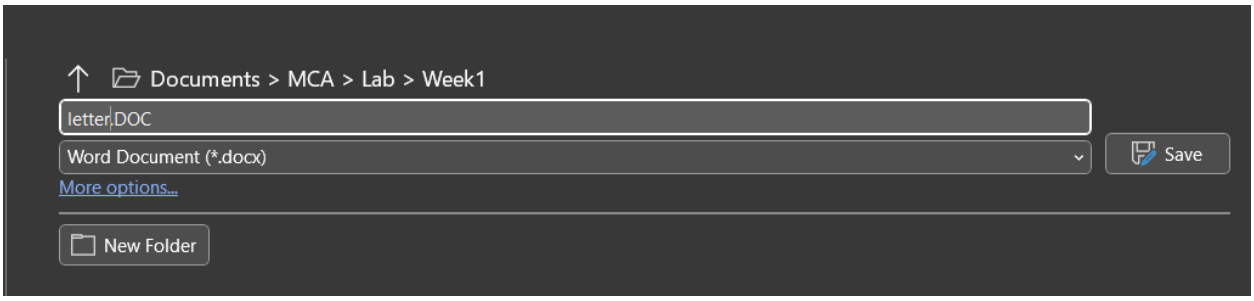
- Use MS-Word and MS-Excel in real life applications.

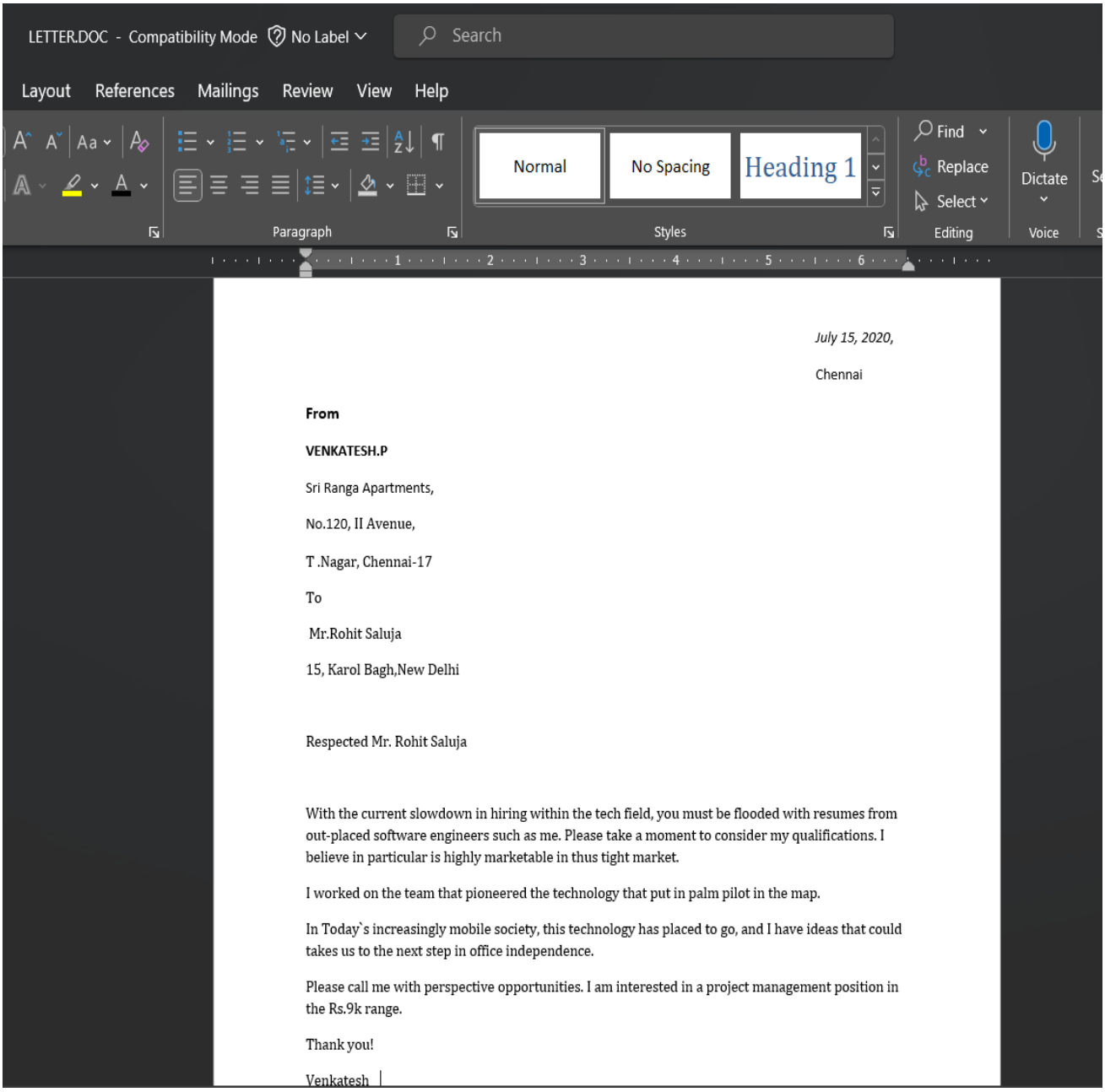
PROBLEMS

1 # Open a new document and type the following letter.

1(i) Save the document as "Letter.doc."

- Open a word file and type down the entire letter along with the resume. Save the file as letter.doc.





ii) Send the document to 3 recipients using Mail merge. (Use 3 different addresses)

v) The Sample Addresses are:

i) Mr. Amit Tandon

13, New Estate,

Ring Road, Chandigarh

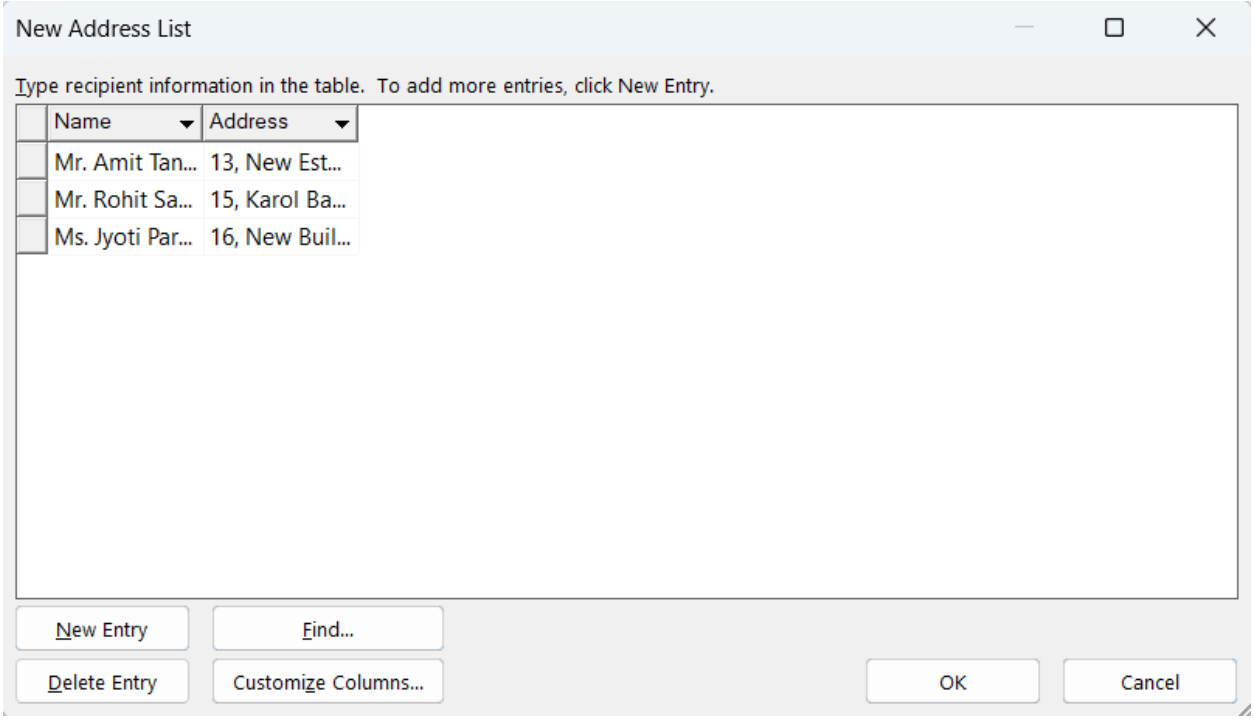
ii) Mr. Rohit Saluja

15, Karol New Delhi

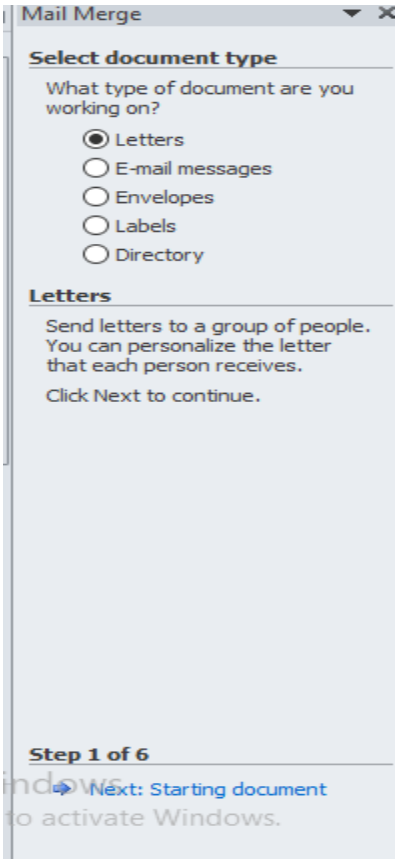
iii) Ms. Jyoti Pannar

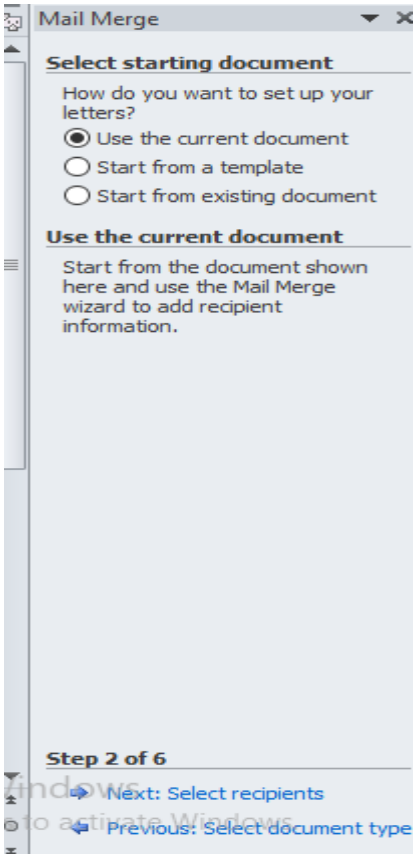
Sector 16, New Building, Gurugram

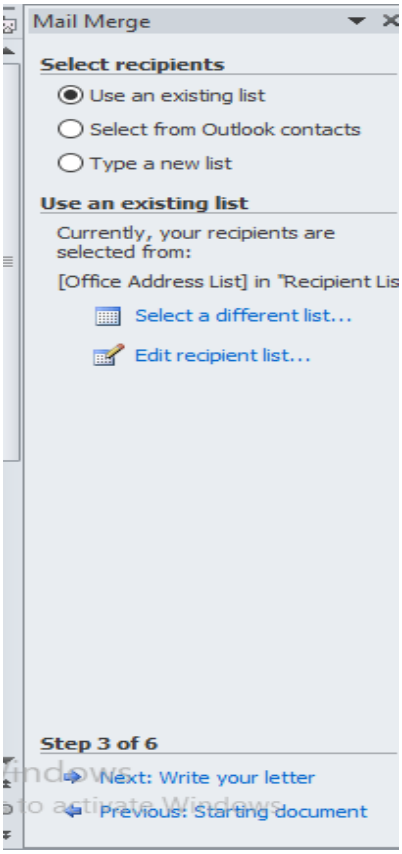
- In "Mailings" tab. Click on "Select Recipients", select "Type New List."
- Customize columns and enter recipient "Name" and "Address". Save the list.

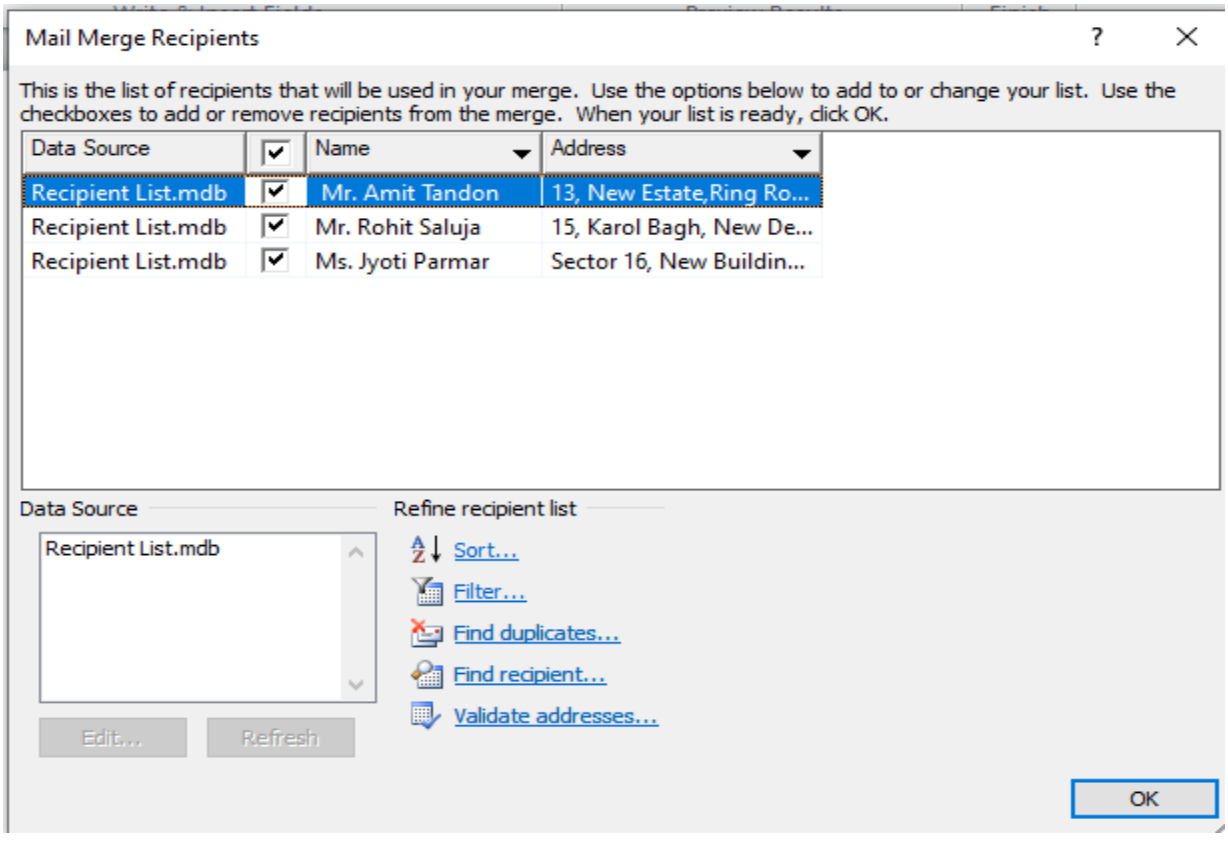


Step-1: In the "Mailings" tab. Click on "Start Mail Merge" and select "Letters".
Step-2: Select "Use the current document".
Step-3: Select "Use an existing list" and choose the saved recipient list. Finalize the recipients from Mail Merge Recipients dialog box and click OK.

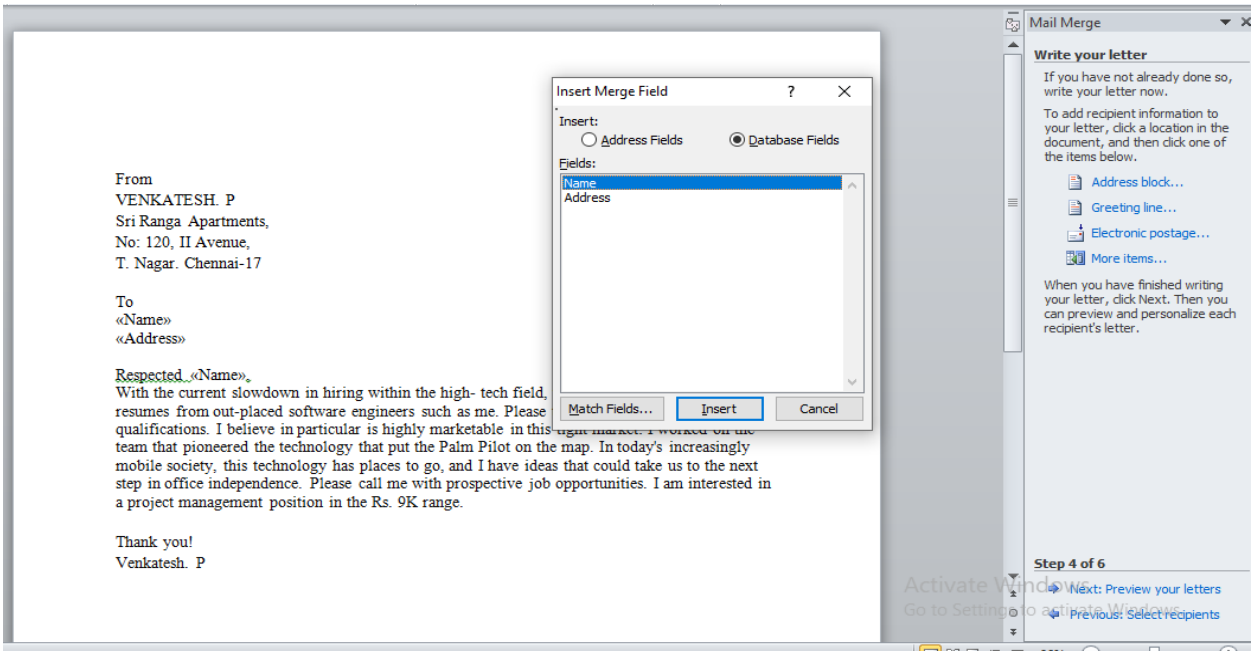

Mail Merge
Select document type
What type of document are you working on?
Letters
E-mail messages
Envelopes
Labels
Directory
Letters
Send letters to a group of people. You can personalize the letter that each person receives.
Click Next to continue.
Step 1 of 6
Next: Starting document


Mail Merge
Select starting document
How do you want to set up your letters?
Use the current document
Start from a template
Start from existing document
Use the current document
Start from the document shown here and use the Mail Merge wizard to add recipient information.
Step 2 of 6
Next: Select recipients
Previous: Select document type

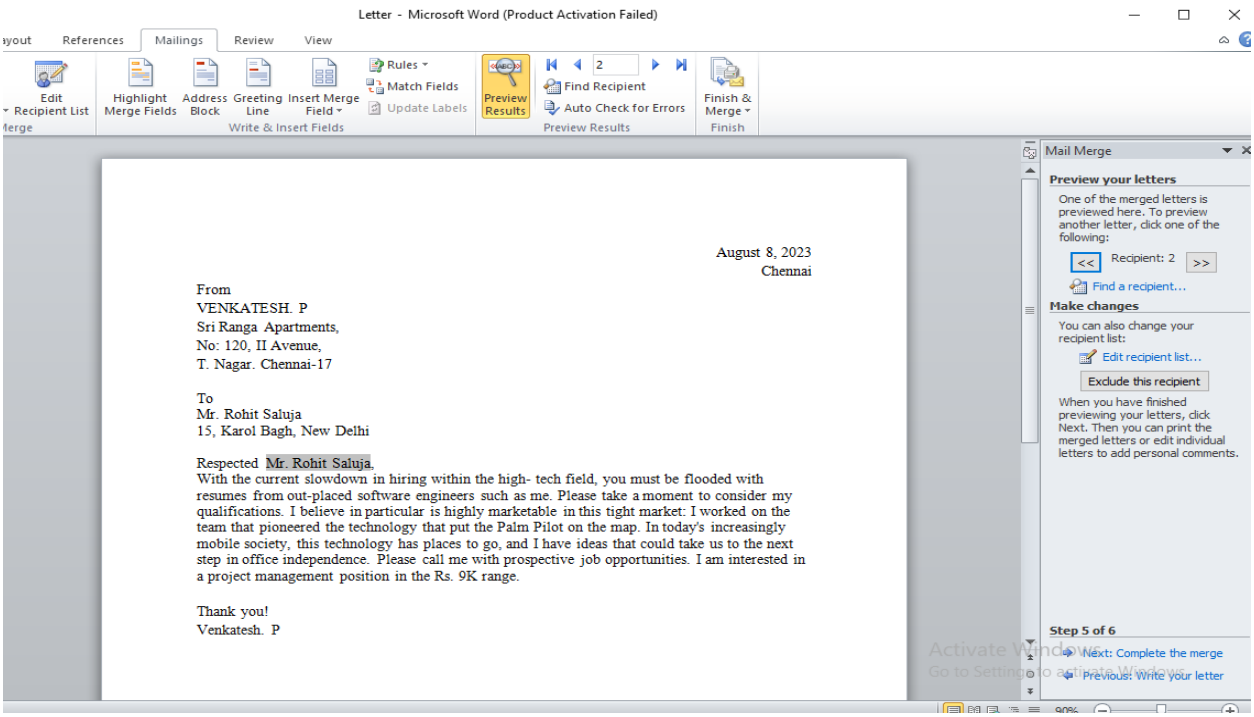

Mail Merge
Select recipients
Use an existing list
Select from Outlook contacts
Type a new list
Use an existing list
Currently, your recipients are selected from:
[Office Address List] in "Recipient Lis
Select a different list...
Edit recipient list...
Step 3 of 6
Next: Write your letter
Previous: Starting document


Mail Merge Recipients
This is the list of recipients that will be used in your merge. Use the options below to add to or change your list. Use the checkboxes to add or remove recipients from the merge. When your list is ready, click OK.
Data Source
Name
Address
Recipient List.mdb
Mr. Amit Tandon
13, New Estate,Ring Ro...
Recipient List.mdb
Mr. Rohit Saluja
15, Karol Bagh, New De...
Recipient List.mdb
Ms. Jyoti Parmar
Sector 16, New Buildin...
Data Source
Recipient List.mdb
Edit...
Refresh
Refine recipient list
Sort...
Filter...
Find duplicates...
Find recipient...
Validate addresses...
OK

Step-4: In "Write your letter" section click "More items". "Insert Merge Field" dialog box appears. From "Database Fields" select location of "Name" and "Address" to be inserted and click "Insert".



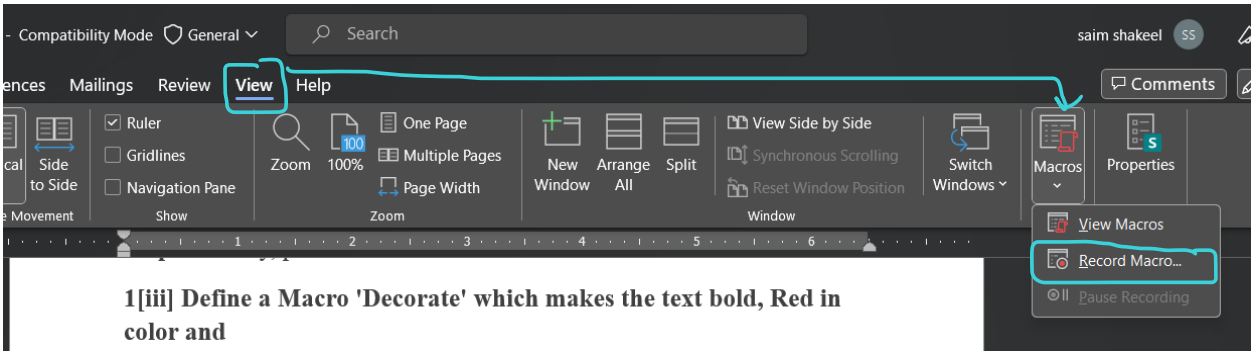
Step-5: Preview the letters.

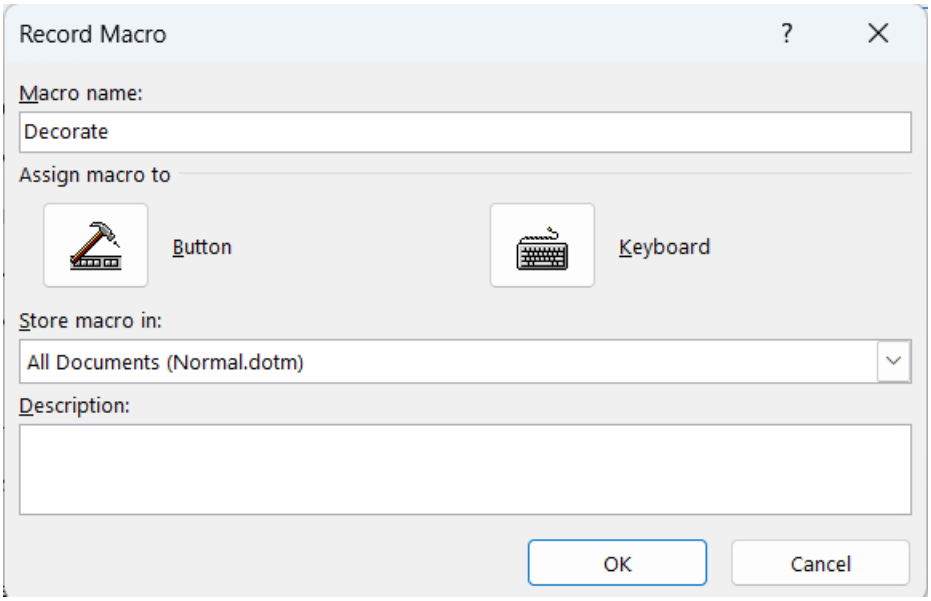


Step-6: Lastly, print the letters.

1[iii] Define a Macro 'Decorate' which makes the text bold, Red in color and italic, font size Assign a shortcut key Alt + Z to this macro.

• From View-> Macros-> Record Maros





- Assign micro to Keyboard give shortcut **Alt+ Z** then Press **OK.**
- Then highlight some text and make the text bold, Red in color and italic.
- Stop recording.
- A macro named ‘Decorate’ is defined.

1[iv] Close the document.

Click on the "File" and select "Close".

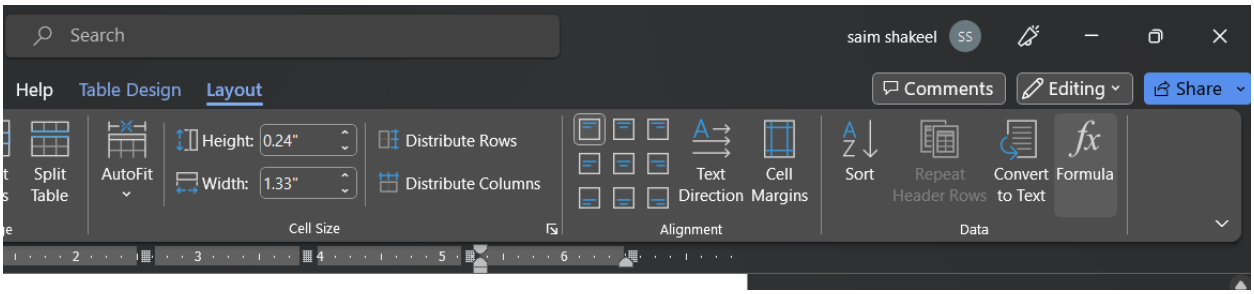
2# Create a table in word as shown below:

Roll No.	Name	Marks in Physics	Marks in Chemistry	Total
4	Rakesh	40	60	100
5	Komal	30	70	100
3	Amit	60	50	110
1	Sakshi	80	70	150
2	Rohit	70	80	150
6	Garima	80	80	160

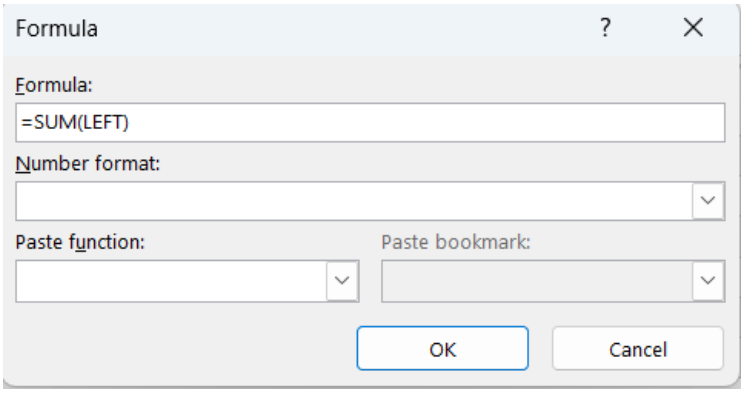
2[i] In the total marks' column, entries should be calculated using formulas and it is the sum of marks in physics and marks in chemistry.

• Click on the cell where the total to be displayed.

• Go to the “Table Tools” i.e., “Table Design” and “Layout” Then in “Layout” Tab select “Formula” in “Data” section.



• In the "Formula" dialog box, set up the formula to calculate the total marks. Since the total marks are the sum of physics and chemistry marks, use formula "=SUM(LEFT)" and click "OK" to apply it.



2[ii] Insert a new row at the end of the table and find grand total using formula.

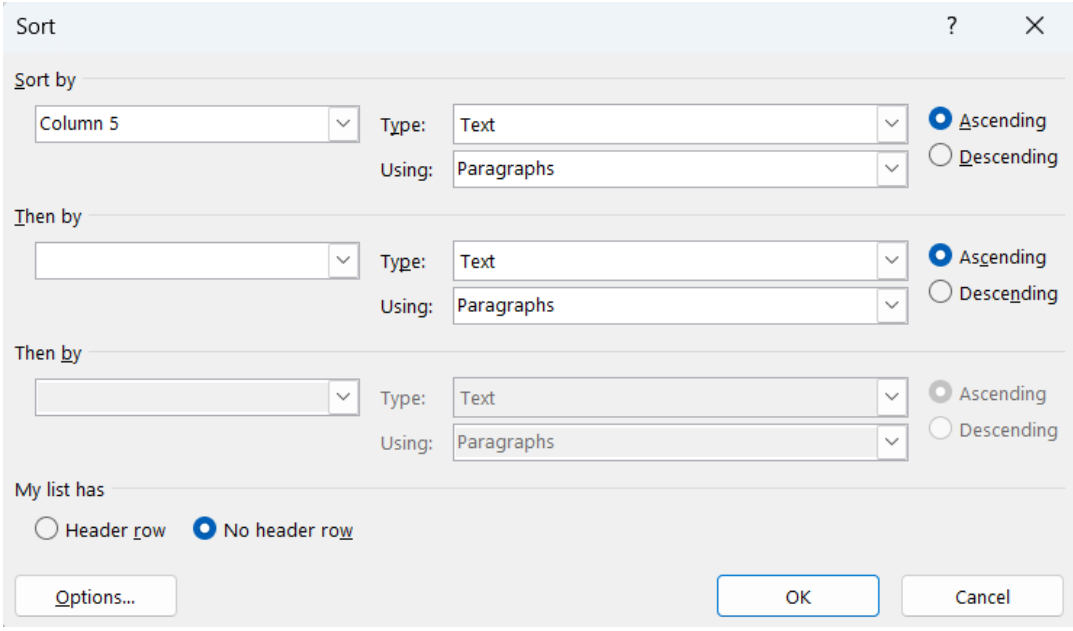
- Right-click on the last row, go to "Insert," and choose "Insert Rows Below".

• In the "Formula" dialog box, set up the formula to calculate the total marks. Since the total marks are the sum of physics and chemistry marks, use formula "=SUM(ABOVE)" and click "OK" to apply it.

Roll No.	Name	Marks in Physics	Marks in Chemistry	Total
1	Sakshi	80	70	150
2	Rohit	70	80	150
3	Amit	60	50	110
4	Rakesh	40	60	100
5	Komal	30	70	100
6	Garima	80	80	160
GRAND TOTAL				770

2[iii] Sort the table based on total marks.

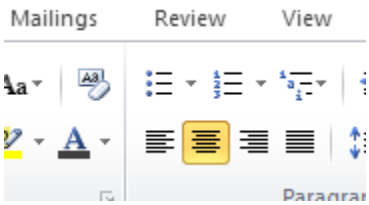
- First select a column in table
- Go to the "Layout" tab. In the “Data" group, click the "Sort" option.



Roll No.	Name	Marks in Physics	Marks in Chemistry	Total
4	Rakesh	40	60	100
5	Komal	30	70	100
3	Amit	60	50	110
1	Sakshi	80	70	150
2	Rohit	70	80	150
6	Garima	80	80	160

2[iv] The data and heading should be center aligned.

• Select the table cells. Go to the "Home" tab. In the "Paragraph" group, click Center aligns icon.



Roll No.	Name	Marks in Physics	Marks in Chemistry	Total
4	Rakesh	40	60	100
5	Komal	30	70	100
3	Amit	60	50	110
1	Sakshi	80	70	150
2	Rohit	70	80	150
6	Garima	80	80	160

2[v] Heading should be in bold and underlined.

• Select heading row.

• Right-click and select **B** icon for bold text.

• Select U icon for underlined text

Roll No.	Name	Marks in Physics	Marks in Chemistry	Total
4	Rakesh	40	60	100
5	Komal	30	70	100
3	Amit	60	50	110
1	Sakshi	80	70	150
2	Rohit	70	80	150
6	Garima	80	80	160

3# Using a spreadsheet package you have studied, construct T Morongo's pay slip for December 2016 following the instructions below. Insert a custom footer with your *name, subject, course, exam/Test &question number.* Save it as Salary advice.

Instructions:

i) Housing Subsidy 6000.00 per year. [i.e., 500.00 per month.**]**

ii) Car Allowance 100.00 per month,

iii) Pension 8% on Basic Salary. [=B8*8/100 i.e., 2496**]**

iv) P.A.Y.E. 636.83

v) Medical Aid 70.00

vi) U.I.F. 1% on Basic Salary + Housing Subsidy. [=(B8+B9)/100 i.e., 317**]**

vii) Bond Repayment 630.00

viii) Calculate Net Salary.

Gross Income [=SUM (B8:B10) i.e., 31800]

Total Deductions [=SUM (D8:D12) i.e., 4149.83]

Net Salary [=(B13-D13) i.e., 27650.17]

ix) Format all figures to two decimal places and insert ₹ currency symbol.

- Select the cells. Right-click on the selected cells and choose "Format Cells."
- select the "Number" category. In the "Decimal places" field, enter "2" to format the numbers to two decimal places.
- In the "Symbol" section, select "Currency" from the dropdown and choose "₹ Indian Rupee" as the currency symbol. Click OK.

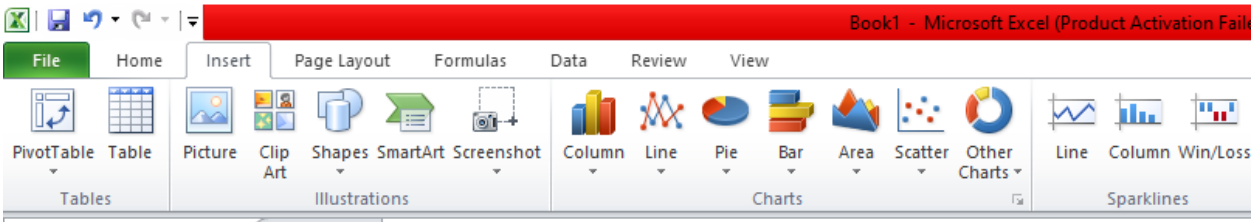
x) Insert a custom footer with your name, subject, and question number. Save it as salary advice2.

Insert a Custom Footer:

- Go to the "Insert" tab in Excel. Click on the "Footer & Header" button.
- In the "Footer" section, input name, subject, course, exam/test details, etc.

Save the Document:

- Go to the "File" menu. Select "Save As."
- Choose a location to save the file and enter file name "Salary Advice". Click "Save".



	A	B	C	D	E
1	**SALARY ADVICE FOR DECEMBER 2016**				
2	EMPLOYEE	T MARONGO			
3	STAFF NO	4			
4	DATE	31-Dec-16			
5	NEXT PAY DATE	30-Jan-17			
6	BASIC SALARY p.a.	₹31,200.00			
7	INCOME	AMOUNT	DEDUCTIONS	AMOUNT	
8	Basic Salary	₹31,200.00	Pension @8%	₹2,496.00	
9	Housing Subsidy	₹500.00	P.A.Y.E.	₹636.83	
10	Vehicle Allowance	₹100.00	U.I.F.	₹317.00	
11			Medical Aid	₹70.00	
12			Bond Repayment	₹630.00	
13	Gross Income	₹31,800.00	Total Deductions	₹4,149.83	
14	Net Salary	₹27,650.17			

4# Use a new workbook & construct a worksheet with the data given & save it as LYONS.

LYONS INC
Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75			234		
Quench	3.65			345		
Xtra	4.25			456		
Sun Splash	1.50			123		
House Bra	1.50			245		
TOTAL						
HIGHEST						
LOWEST						

- Go to the "File" menu. Select "Save As."
- Choose a location to save the file and enter file name "LYONS". Click "Save".

Instructions

- Markup = Cost price/Litre x 35%

LYONS INC
Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31		234		
Quench	3.65	1.28		345		
Xtra	4.25	=D11*35%		456		
Sun Splash	1.50			123		
House Bra	1.50			245		
TOTAL						
HIGHEST						
LOWEST						

- Selling price= Cost price/Litre + Mark up

LYONS INC

Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234		
Quench	3.65	1.28	4.93	345		
Xtra	4.25	1.49	=D11+E11	456		
Sun Splash	1.50	0.53		123		
House Bra	1.50	0.53		245		
TOTAL						
HIGHEST						
LOWEST						

- Total income= Litres sold x Selling Price

LYONS INC

Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	
Quench	3.65	1.28	4.93	345	1699.99	
Xtra	4.25	1.49	5.74	456	=F11*G11	
Sun Splash	1.50	0.53	2.03	123		
House Bra	1.50	0.53	2.03	245		
TOTAL						
HIGHEST						
LOWEST						

- Profit = Total income – (Cost price/Litre x Litres sold)

LYONS INC

Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	=H11-(D11*G11)
Sun Splash	1.50	0.53	2.03	123	249.08	
House Bra	1.50	0.53	2.03	245	496.13	
TOTAL						
HIGHEST						
LOWEST						

Now calculate the **total** value, the **highest** ,the **lowest** and **average** values for each column using the given statistical formulas:

- For total =SUM(CELL ADDRESS)

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	678.30
Sun Splash	1.50	0.53	2.03	123	249.08	64.58
House Bra	1.50	0.53	2.03	245	496.13	128.63
TOTAL	=SUM(D9:D13)					
HIGHEST						
LOWEST						

➢ HIGHEST =MAX(CELL ADDRESS)

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	678.30
Sun Splash	1.50	0.53	2.03	123	249.08	64.58
House Bra	1.50	0.53	2.03	245	496.13	128.63
TOTAL	14.65					
HIGHEST	=MAX(D9:D13)					
LOWEST	MAX(**number1**, [number2], ...)					

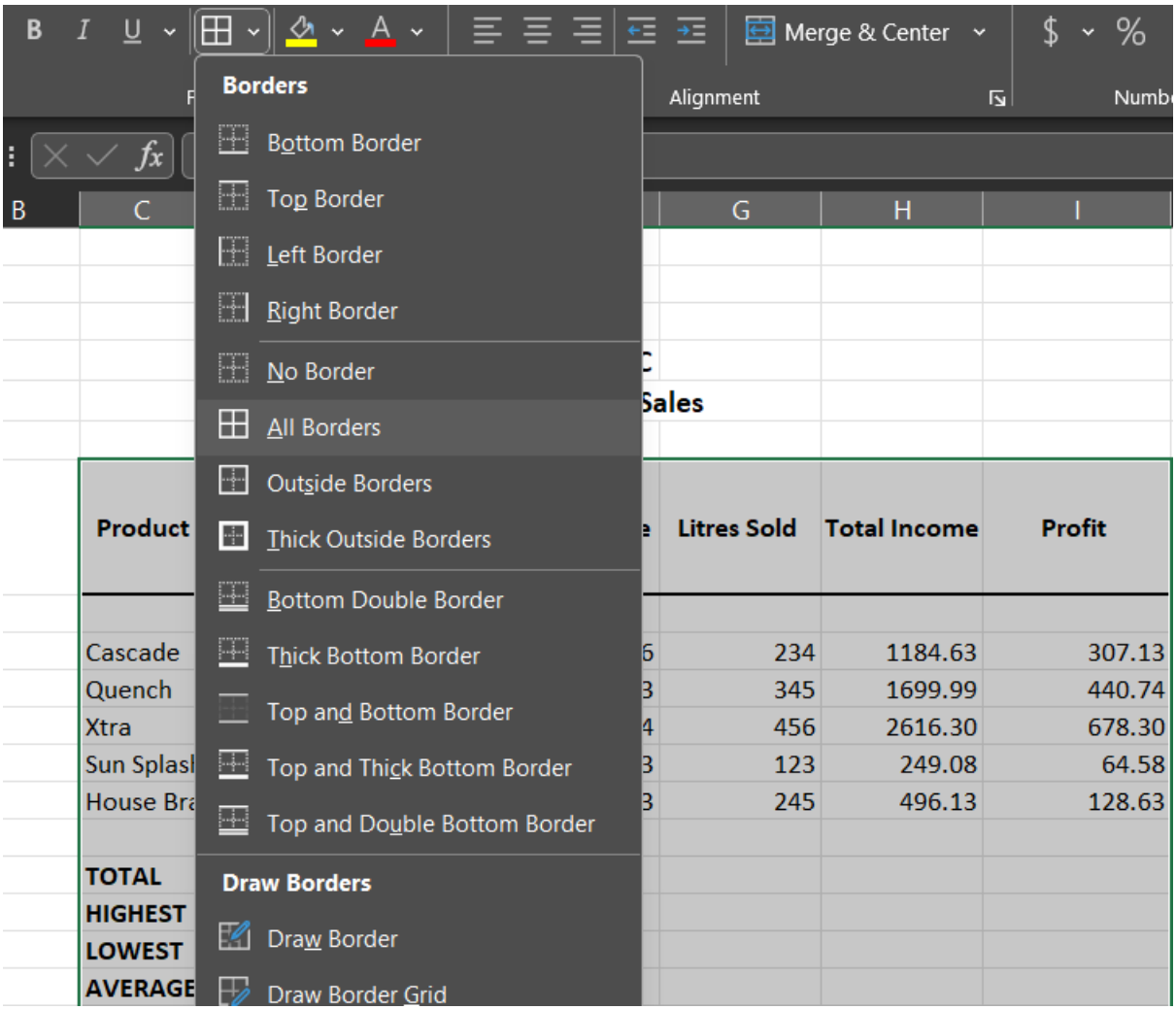
➢ LOWEST =MIN(CELL ADDRESS)

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	678.30
Sun Splash	1.50	0.53	2.03	123	249.08	64.58
House Bra	1.50	0.53	2.03	245	496.13	128.63
TOTAL	14.65					
HIGHEST	4.25					
LOWEST	=MIN(D9:D13)					

➢ AVERAGE =AVERAGE(CELL ADDRESS)

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	678.30
Sun Splash	1.50	0.53	2.03	123	249.08	64.58
House Bra	1.50	0.53	2.03	245	496.13	128.63
TOTAL	14.65					
HIGHEST	4.25					
LOWEST	1.50					
AVERAGE	=AVERAGE(D9:D13)					
	AVERAGE(**number1**, [number2], ...)					

- Apply borders to the table using the border icon from HOME tab. Also format the litres sold column to integers and the rest of the columns to two decimal places. For this, select the required column and click on the General drop-down option in the HOME tab.



This is the result.

LYONS INC

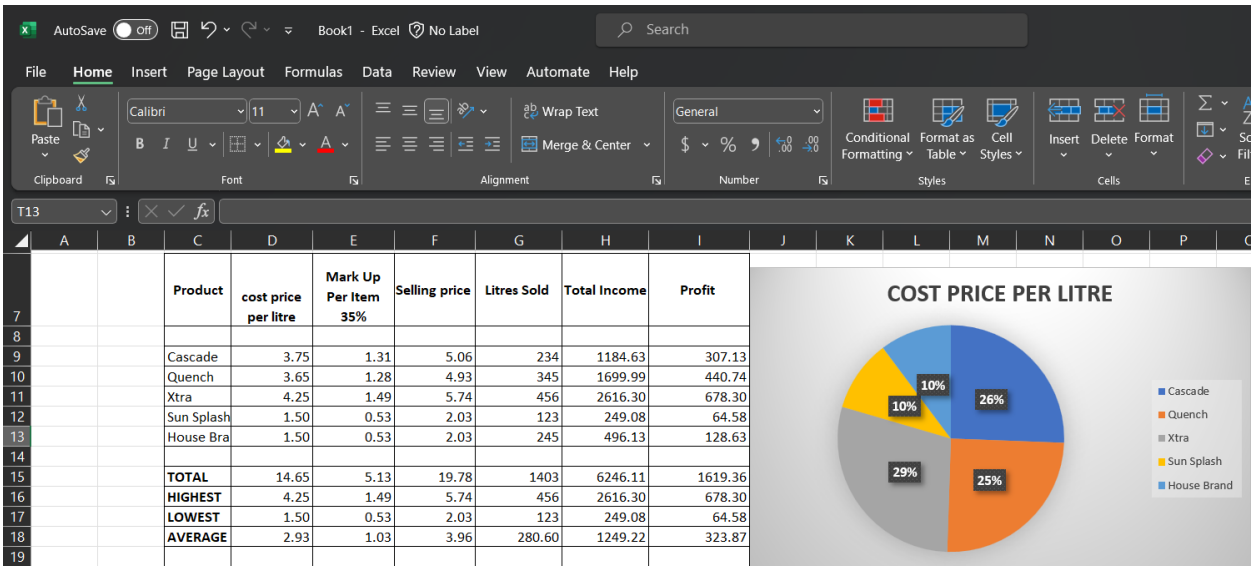
Orange JUICE Sales

Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
Cascade	3.75	1.31	5.06	234	1184.63	307.13
Quench	3.65	1.28	4.93	345	1699.99	440.74
Xtra	4.25	1.49	5.74	456	2616.30	678.30
Sun Splash	1.50	0.53	2.03	123	249.08	64.58
House Bra	1.50	0.53	2.03	245	496.13	128.63
TOTAL	14.65	5.13	19.78	1403	6246.11	1619.36
HIGHEST	4.25	1.49	5.74	456	2616.30	678.30
LOWEST	1.50	0.53	2.03	123	249.08	64.58
AVERAGE	2.93	1.03	3.96	280.60	1249.22	323.87

For showing all the formulas used in this excel sheet, click on the FORMULAS ribbon and then click on Show Formulas on the left.

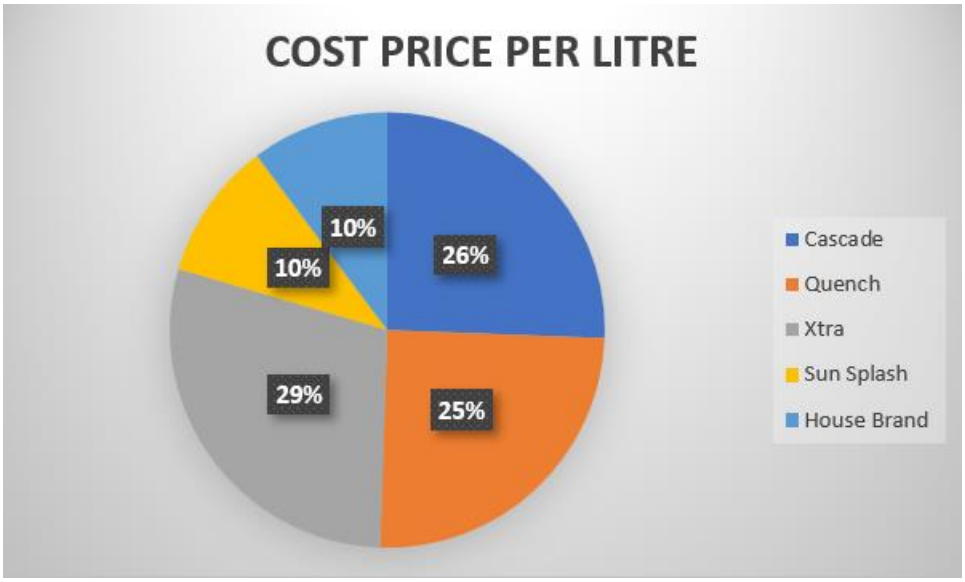
				LYONS INC				
				Orange JUICE Sales				
	Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit	
	Cascade	3.75	=D9*35%	=D9+E9	234	=F9*G9	=H9-(D9*G9)	
	Quench	3.65	=D10*35%	=D10+E10	345	=F10*G10	=H10-(D10*G10)	
	Xtra	4.25	=D11*35%	=D11+E11	456	=F11*G11	=H11-(D11*G11)	
	Sun Splash	1.5	=D12*35%	=D12+E12	123	=F12*G12	=H12-(D12*G12)	
	House Brand	1.5	=D13*35%	=D13+E13	245	=F13*G13	=H13-(D13*G13)	
	TOTAL	=SUM(D9:D13)	=SUM(E9:E13)	=SUM(F9:F13)	=SUM(G9:G13)	=SUM(H9:H13)	=SUM(I9:I13)	
	HIGHEST	=MAX(D9:D13)	=MAX(E9:E13)	=MAX(F9:F13)	=MAX(G9:G13)	=MAX(H9:H13)	=MAX(I9:I13)	
	LOWEST	=MIN(D9:D13)	=MIN(E9:E13)	=MIN(F9:F13)	=MIN(G9:G13)	=MIN(H9:H13)	=MIN(I9:I13)	
	AVERAGE	=AVERAGE(D9:D13)	=AVERAGE(E9:E13)	=AVERAGE(F9:F13)	=AVERAGE(G9:G13)	=AVERAGE(H9:H13)	=AVERAGE(I9:I13)	

For creating a pie chart, go to the INSERT tab and select PIE. After selecting the design for pie chart, click on Select Data on the top left. Select the column of Product and Cost per litre and press 0K.



	Product	cost price per litre	Mark Up Per Item 35%	Selling price	Litres Sold	Total Income	Profit
9	Cascade	3.75	1.31	5.06	234	1184.63	307.13
10	Quench	3.65	1.28	4.93	345	1699.99	440.74
11	Xtra	4.25	1.49	5.74	456	2616.30	678.30
12	Sun Splash	1.50	0.53	2.03	123	249.08	64.58
13	House Bra	1.50	0.53	2.03	245	496.13	128.63
14							
15	TOTAL	14.65	5.13	19.78	1403	6246.11	1619.36
16	HIGHEST	4.25	1.49	5.74	456	2616.30	678.30
17	LOWEST	1.50	0.53	2.03	123	249.08	64.58
18	AVERAGE	2.93	1.03	3.96	280.60	1249.22	323.87

PIE CHART:



WEEK2

OBJECTIVES

- To help the students in learning about MS-Power Point.

OUTCOMES

After completing this, the students would be able to:

- Understand the usage of MS-Power Point in real life.

PROBLEMS

1# Design Seasonal Greeting cards using MS-Power Point.

2# Design a AMU Magazine cover in MS-Power Point. Use the following:

i) Select a theme for the page,

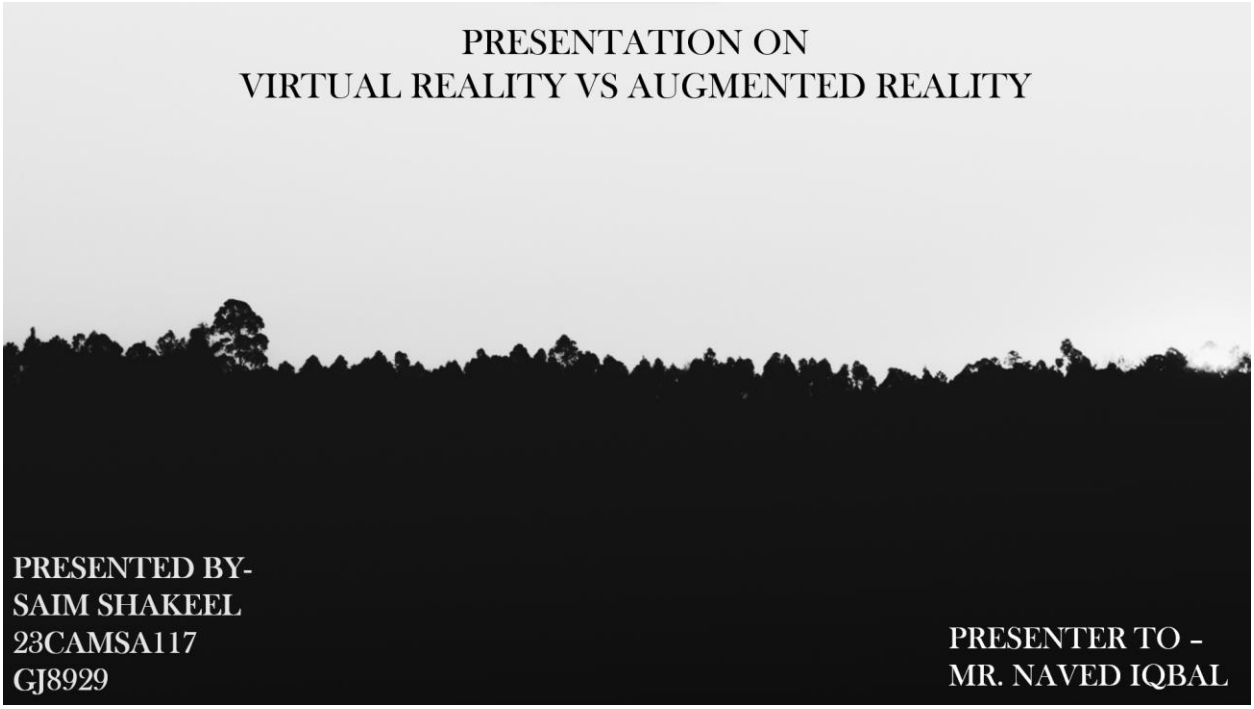
ii) Insert either a picture or clipart, and

iii) Use WordArt.

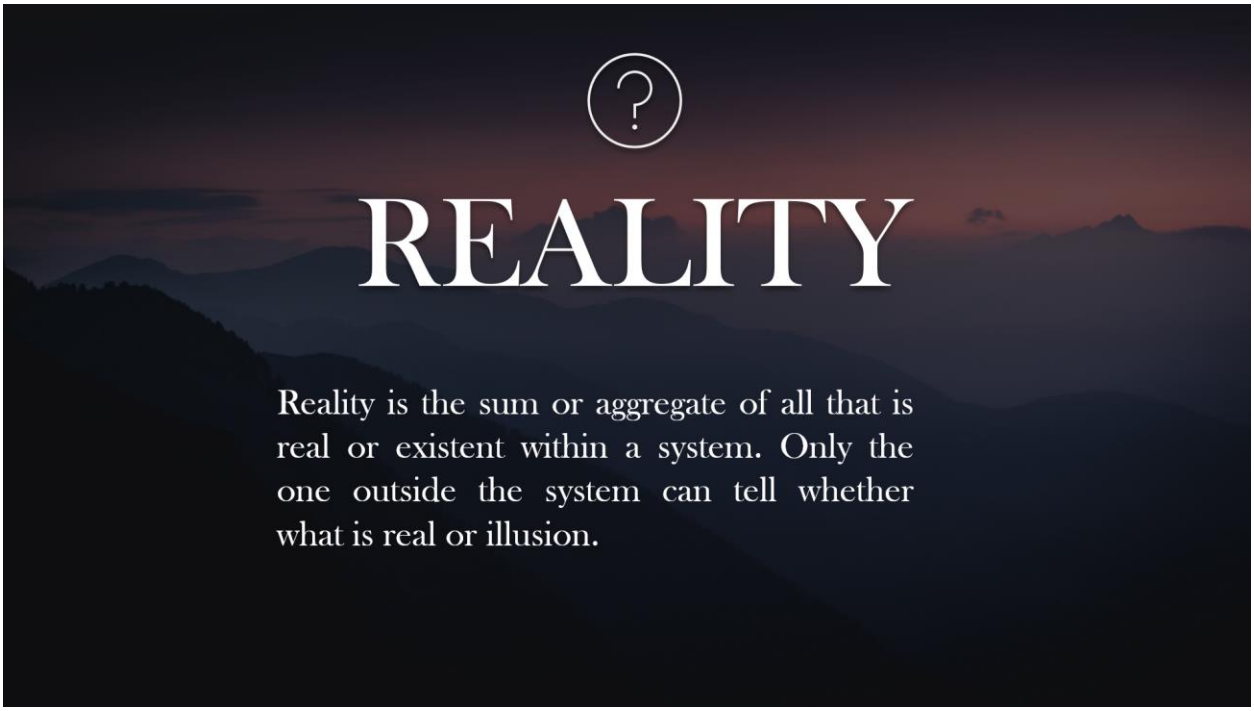
3# Design a poster inviting all students of your department to the IT Fest (using MS-Power Point).

4# Create a 5-slide presentation on any topic. … (using MS-Power Point).

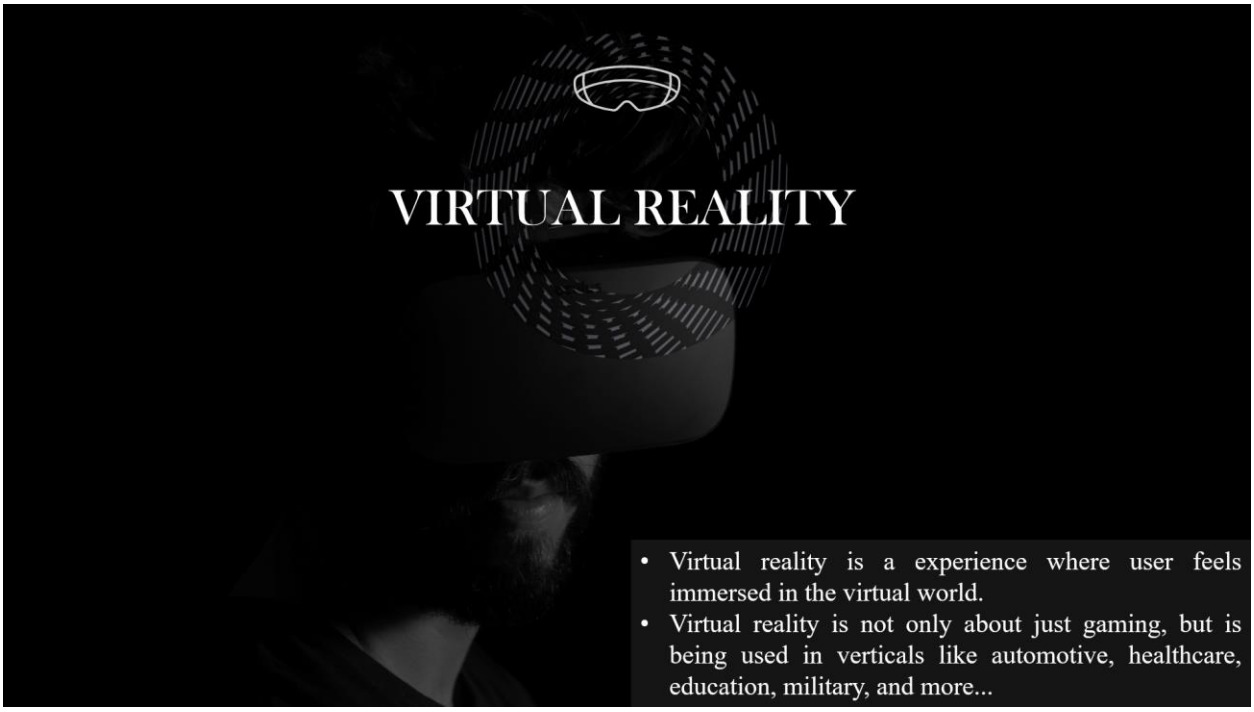
SLIDE 1:



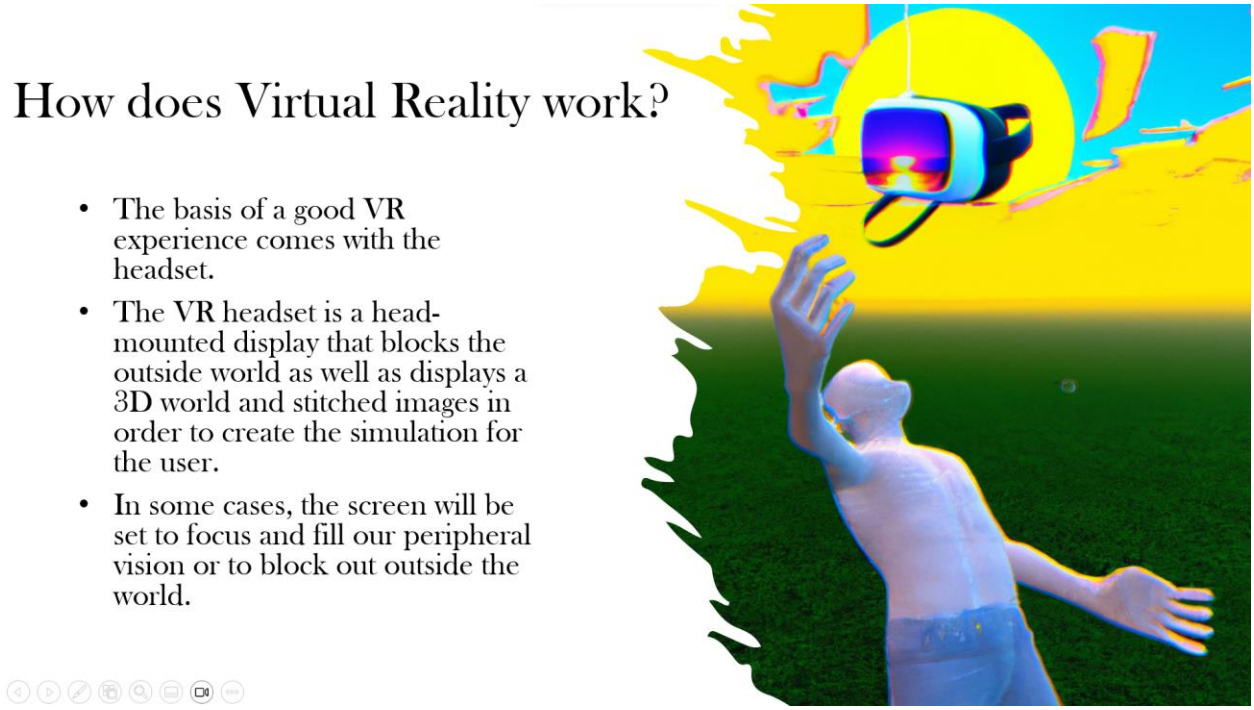
SLIDE2:



SLIDE 3:



SLIDE 4:



SLIDE 5:

Features of the VR systems include:

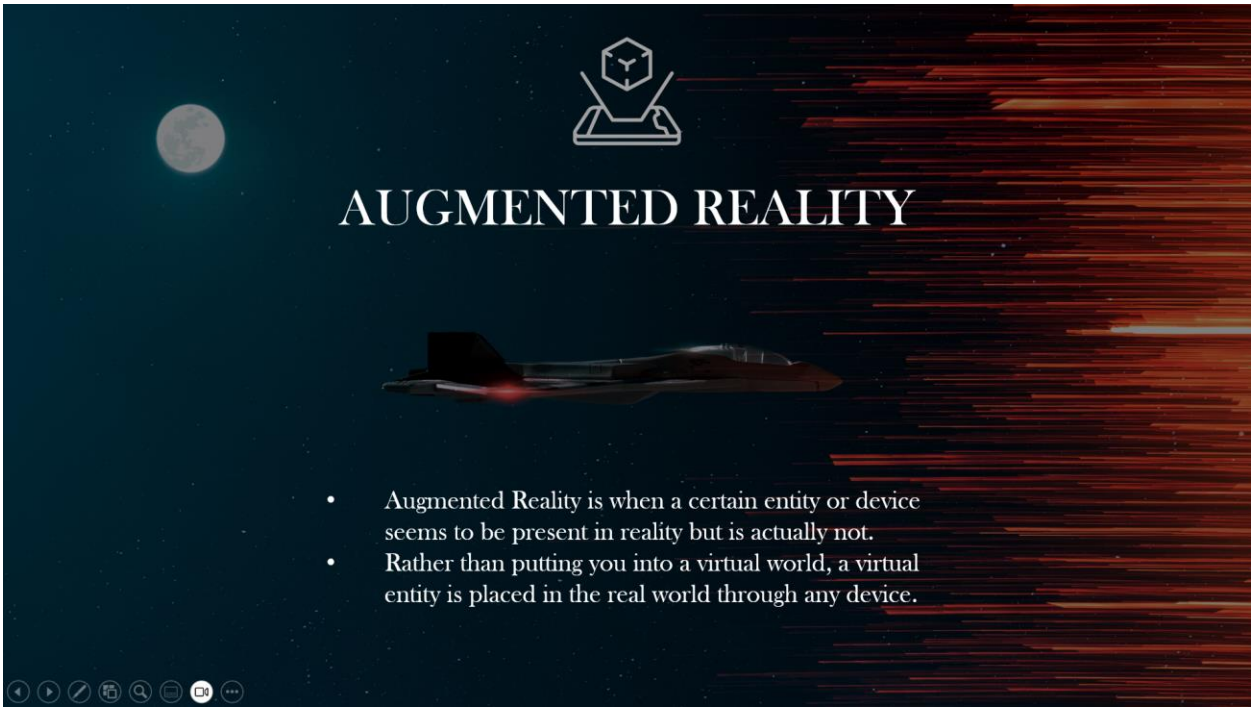
- *Immersion*

Immersion into virtual reality (VR) is a perception of being physically present in a non-physical world

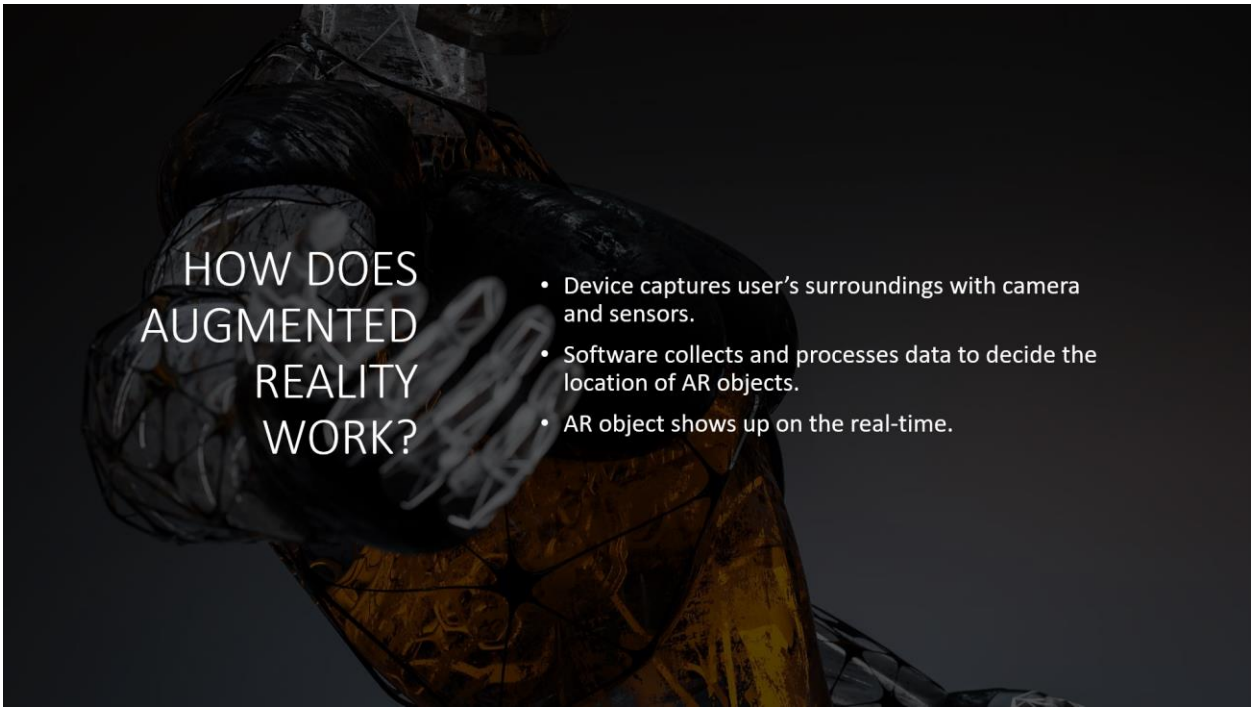
- *Interaction*

The ability to pick objects in a scene and interact with the characters will improve immersion further and add to the VR simulation's value.

SLIDE 6:



SLIDE 7:



SLIDE 8:

WEEK 3

OBJECTIVES

- ❒ To help the students in learning the concepts of C++.
- ❒ To help the students in learning the different tools for C++ programming on different software platform.
- ❒ To help the students in installing the C++ tool kit in their computers.

OUTCOMES

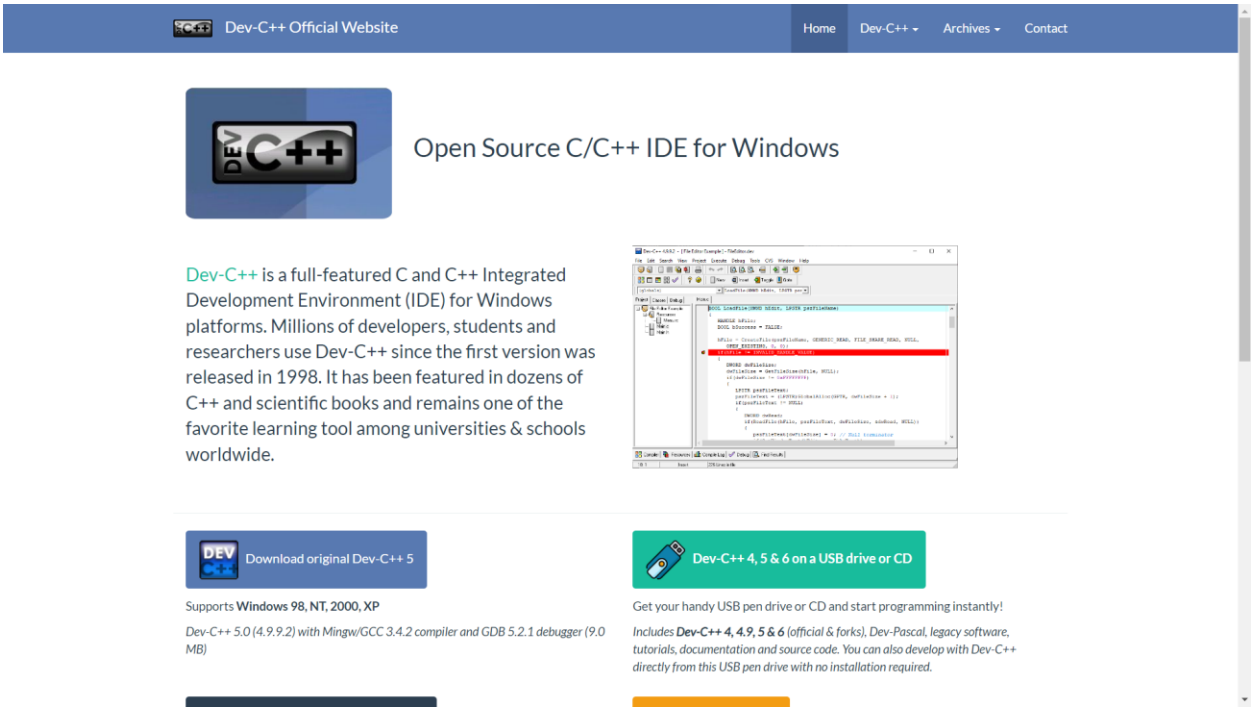
After completing this, the students would be able to:

- ❒ Understand the concepts of C++.
- ❒ Setup the C++ environment on different platform.

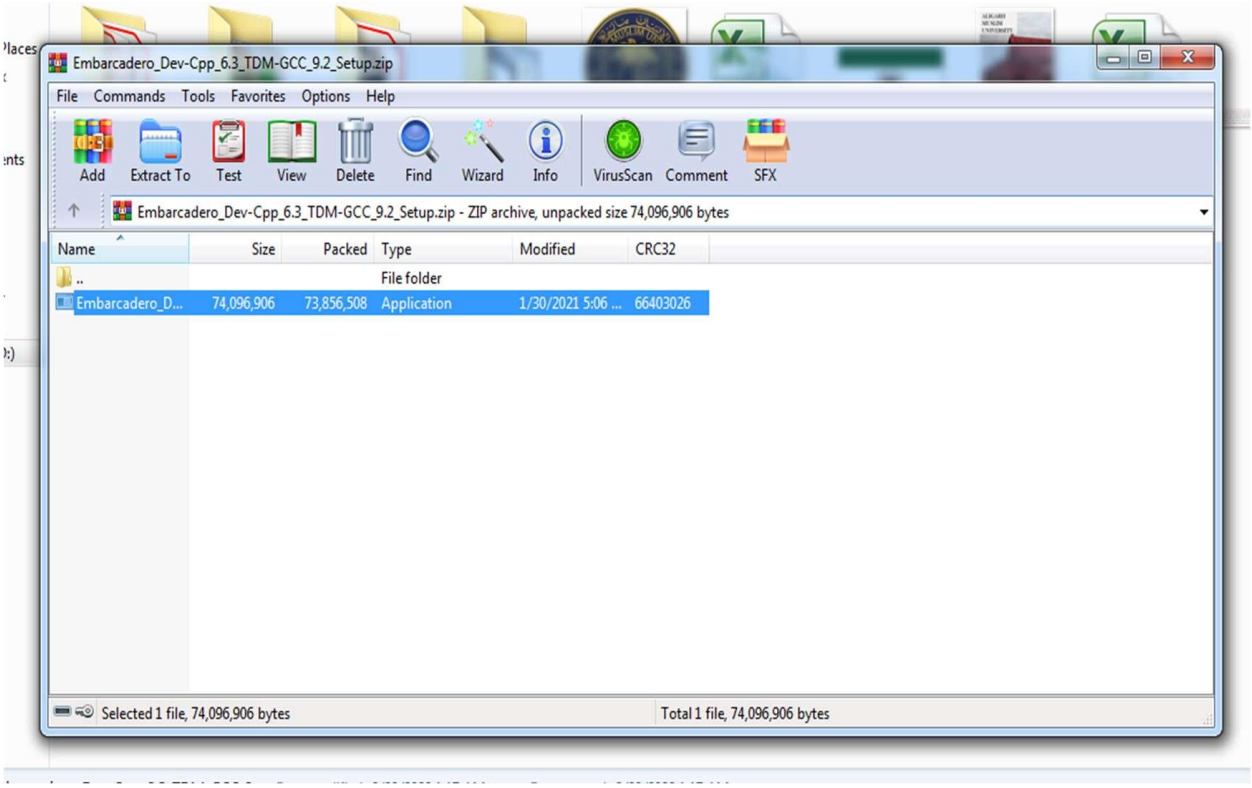
INSTALLATION OF **DEV C++**

STEPS:

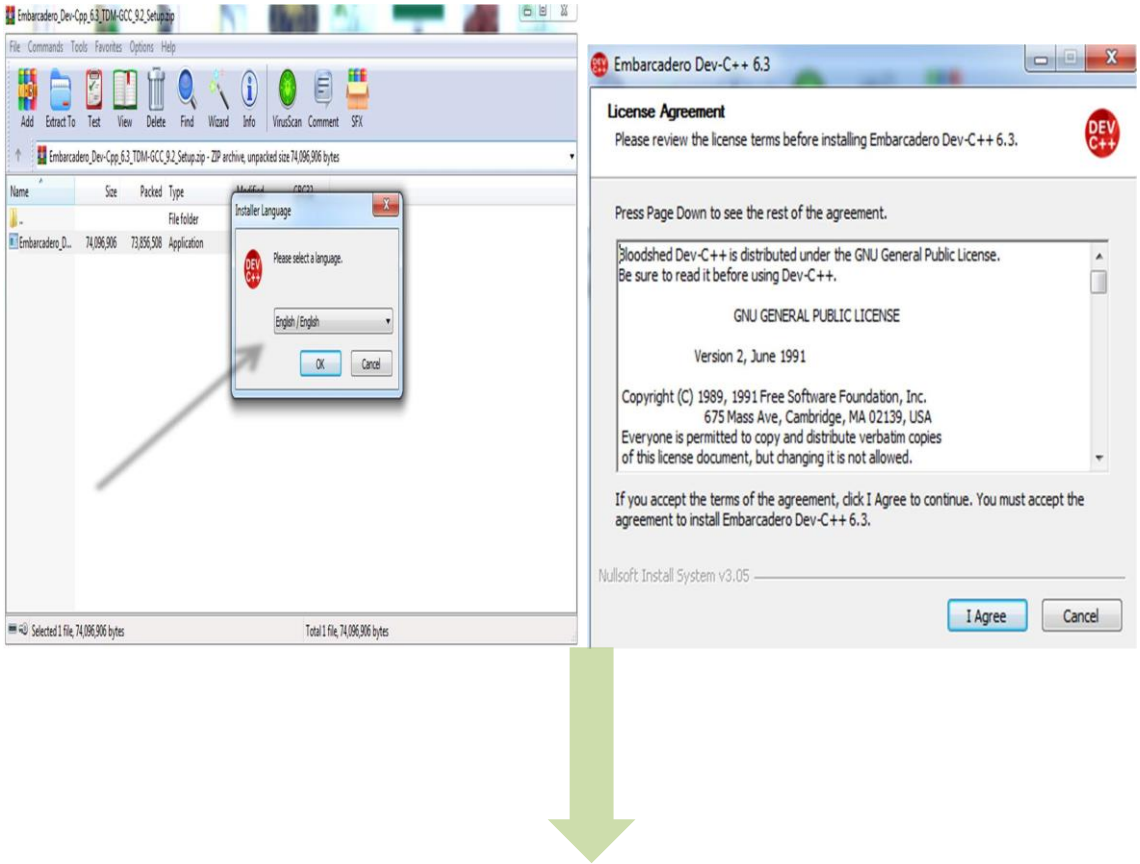
- ➢ Official website of bloodshed to download Dev C++ https://bloodshed.net/

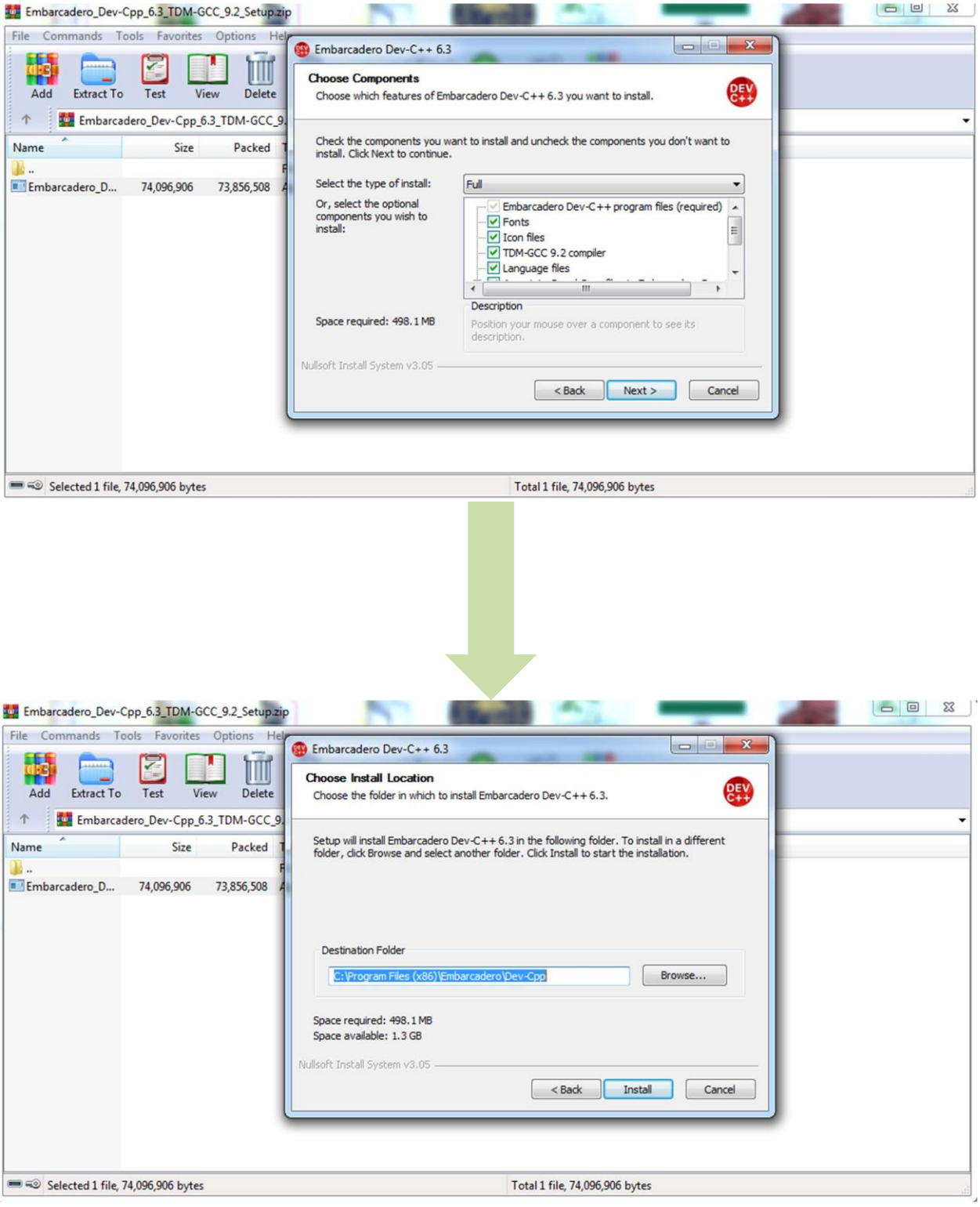


- ➢ Click on Download original Dev C++ setup and save it to desired location.
- ➢ Extract the downloaded zip file

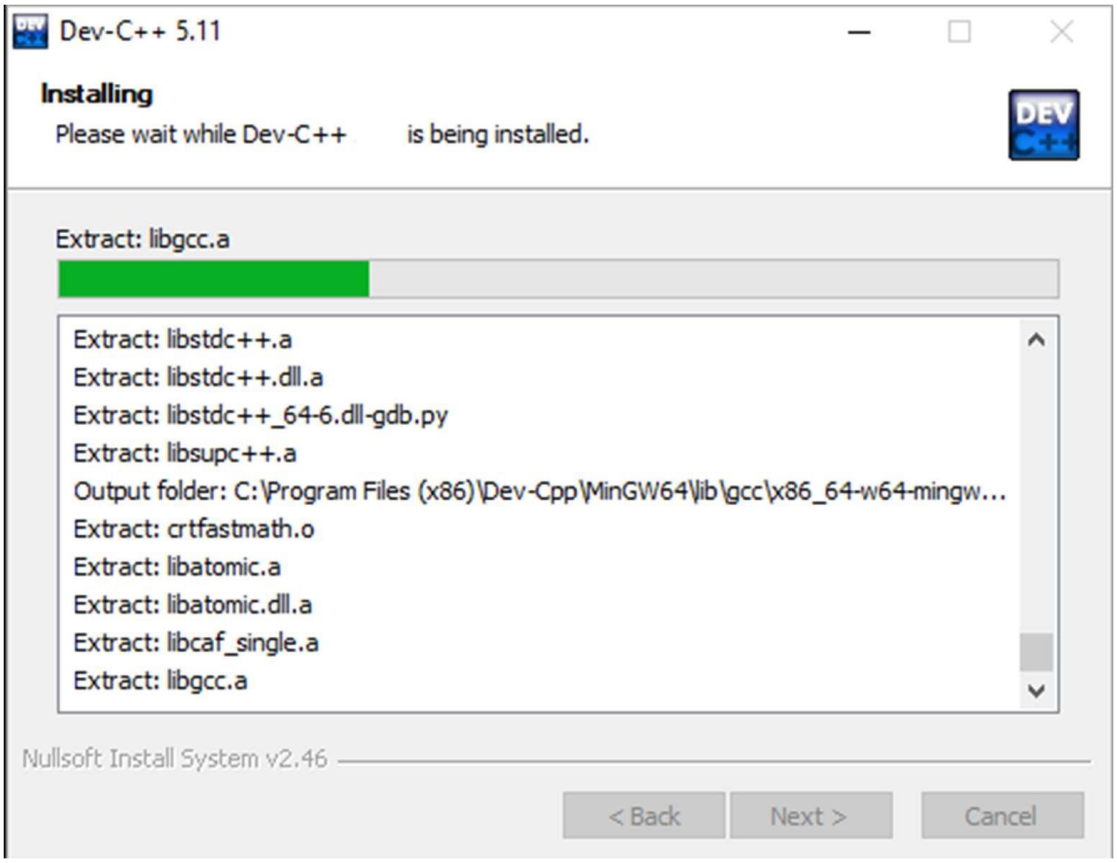


- Select the language, click I Agree on the license and install the rest of the components that come through.

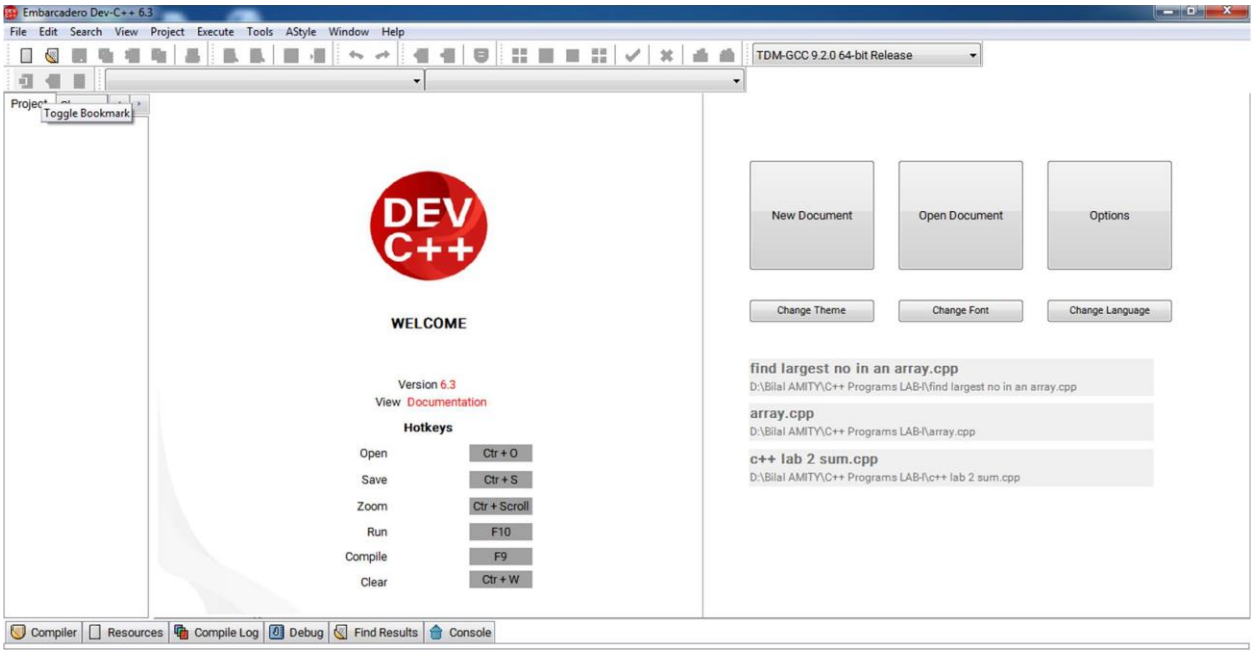




The following screenshot shows the progress of the installation.



- Dev C++ has been installed. This is the result.



- Here is a simple basic program on this compiler.