PRACTICAL FILE OF INFORMATION TECHNOLOGY

CODE: 402

SCHOLARS GLOBAL SCHOOL

SUBMITTED TO: SANDEEP SIR

SUBMITTED BY: ANSH NEHRA

CLASS: X

BOARD ROLL NUMBER:

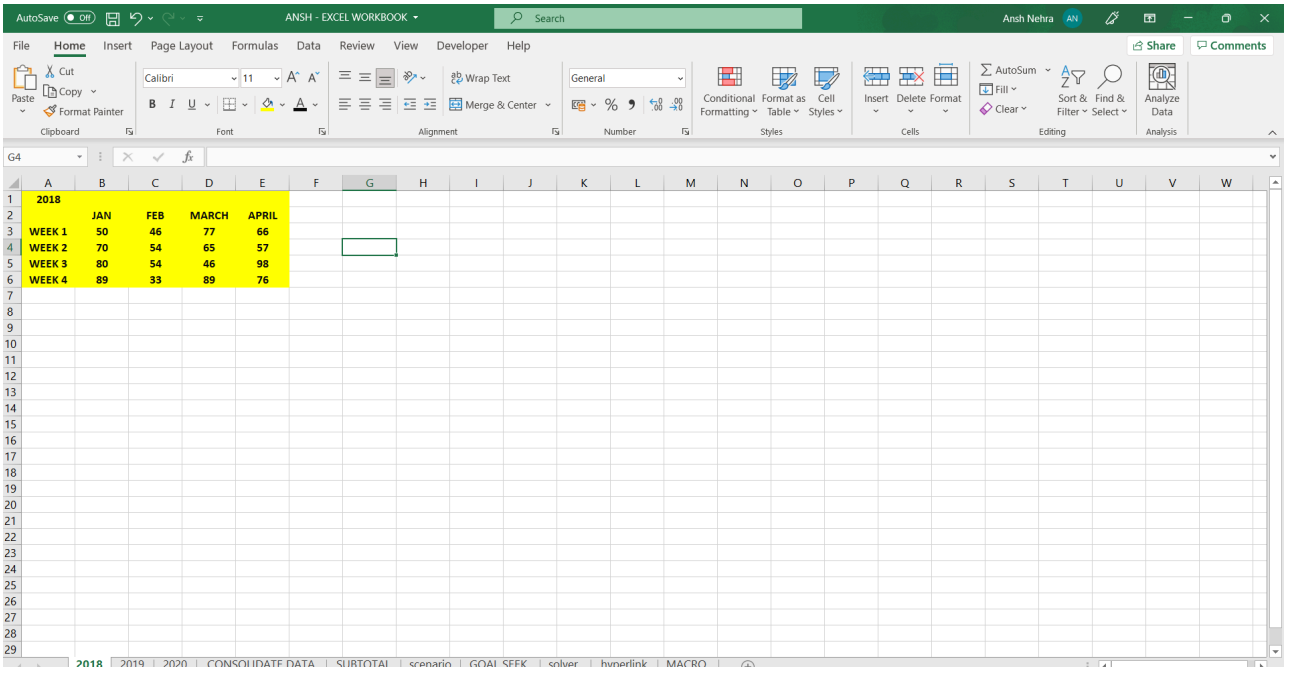
CONSOLIDATE DATA

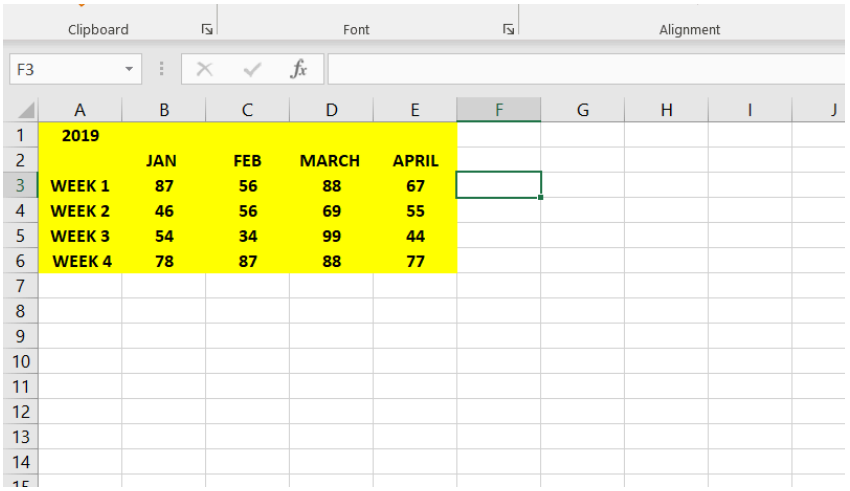
Data Consolidation allows **you to gather together your data from separate worksheets into a master worksheet**. In other words, the Data Consolidation function takes data from a series of worksheets or workbooks and summaries it into a single worksheet that you can update easily.

STEPS

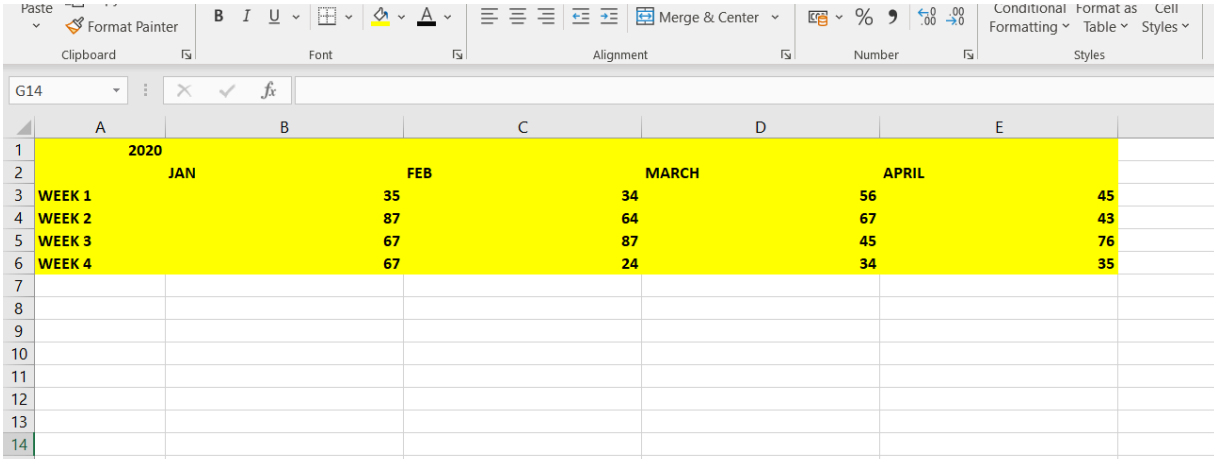
Step 1: Open all files (workbooks) that contain the data you want to consolidate.

Step 2: Ensure the data is organized in the same way (see example below).
Step 3: On the Data ribbons, select Data Tools and then Consolidate.
Step 4: Select the method of consolidation (in our example, it's Sum).
Step 5: Select the data, including the labels, and click Add
Step 6: Repeat step 5 for each worksheet or workbook that contains the data you need included
Step 7: Check boxes "top row", "left column", and "create links to data source" (note you don't have to tick these boxes if you don't want labels or don't want live links) and click the OK button.



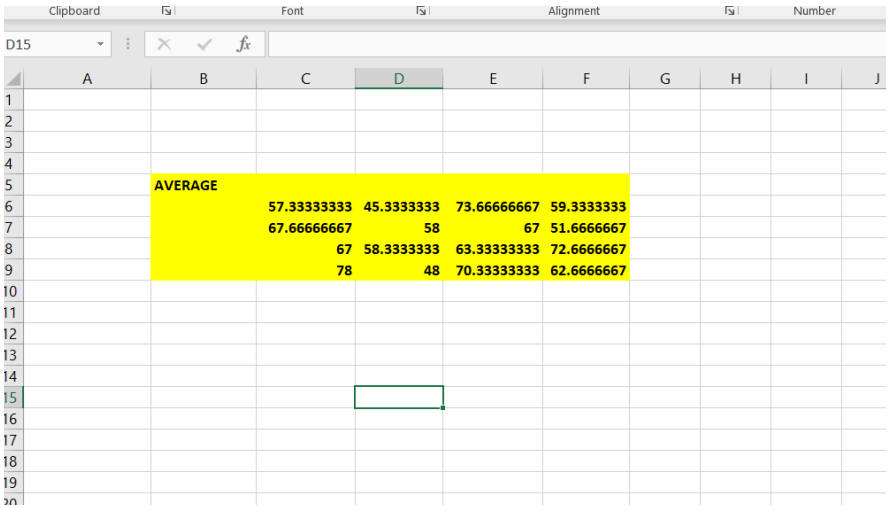


	A	B	C	D	E
1	2019				
2		JAN	FEB	MARCH	APRIL
3	WEEK 1	87	56	88	67
4	WEEK 2	46	56	69	55
5	WEEK 3	54	34	99	44
6	WEEK 4	78	87	88	77



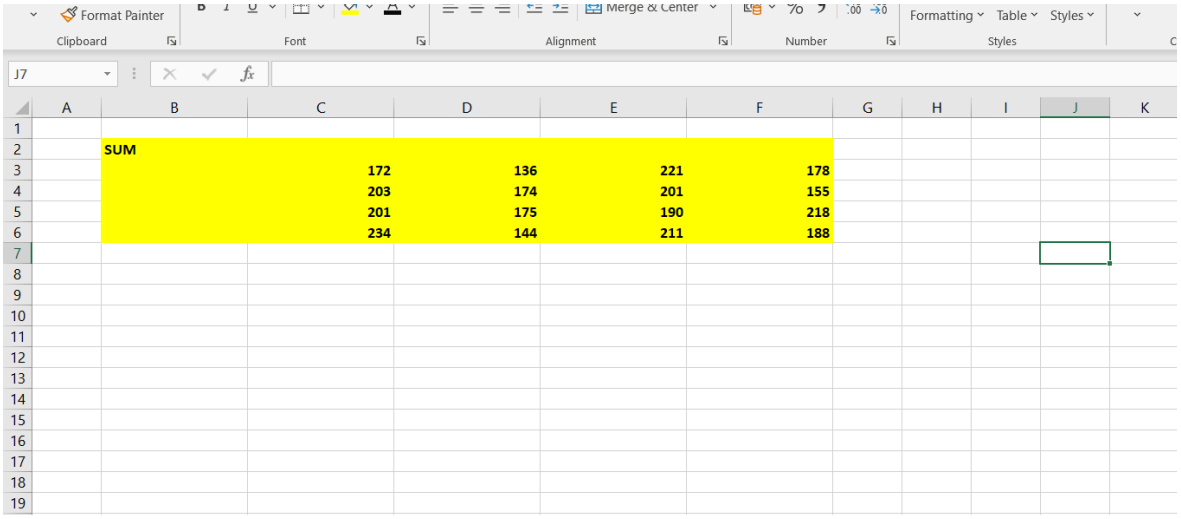
	A	B	C	D	E
1	2020				
2		JAN	FEB	MARCH	APRIL
3	WEEK 1	35	34	56	45
4	WEEK 2	87	64	67	43
5	WEEK 3	67	87	45	76
6	WEEK 4	67	24	34	35

CONSOLIDATE: AVERAGE



	B	C	D	E	F
5	AVERAGE				
6		57.33333333	45.3333333	73.66666667	59.3333333
7		67.66666667	58	67	51.6666667
8		67	58.3333333	63.33333333	72.6666667
9		78	48	70.33333333	62.6666667

CONSOLIDATE SUM



	B	C	D	E	F
2	SUM				
3		172	136	221	178
4		203	174	201	155
5		201	175	190	218
6		234	144	211	188

SUBTOTAL

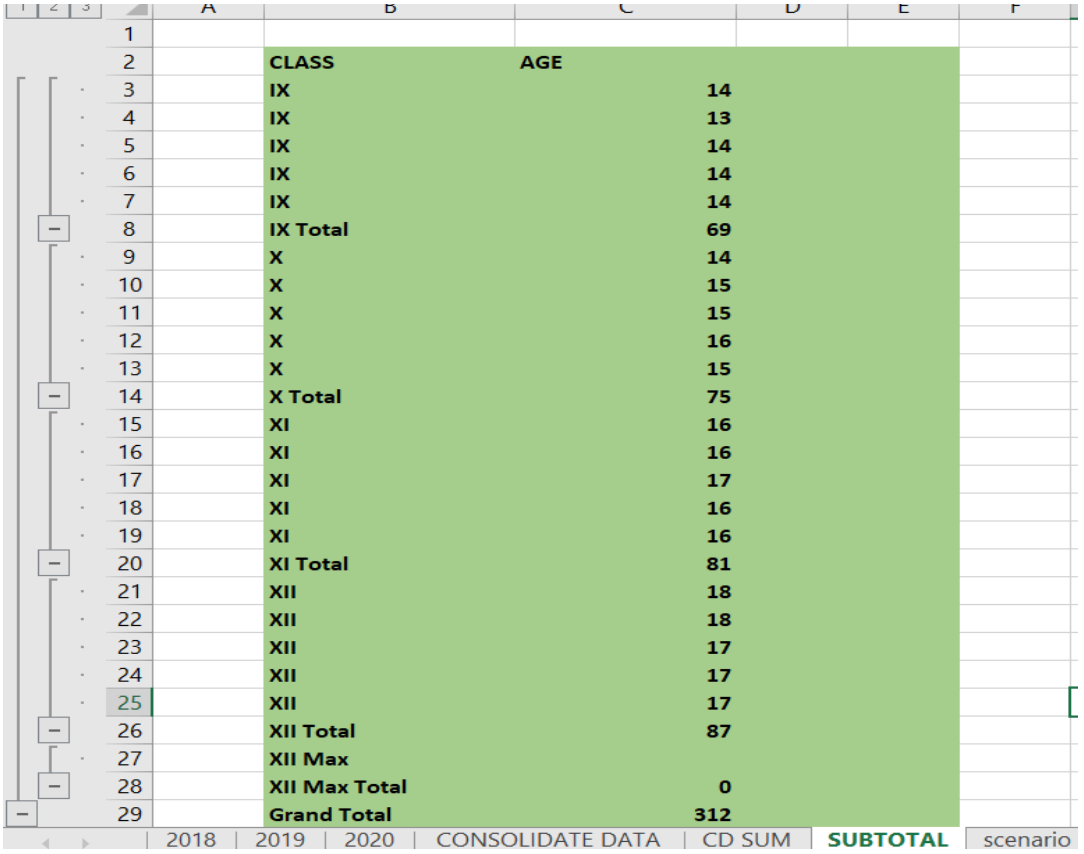
Subtotals are calculated with a summary function, such as **Sum** or **Average**, by using the SUBTOTAL function. You can display more than one type of summary function for each column.

STEPS :

1. Make sure that each column in a range of data for which you want to calculate subtotals has a label in the first row, contains similar facts in each column, and that the range does not include any blank rows or columns.
2. Select a cell in the range.
3. Insert one level of subtotals

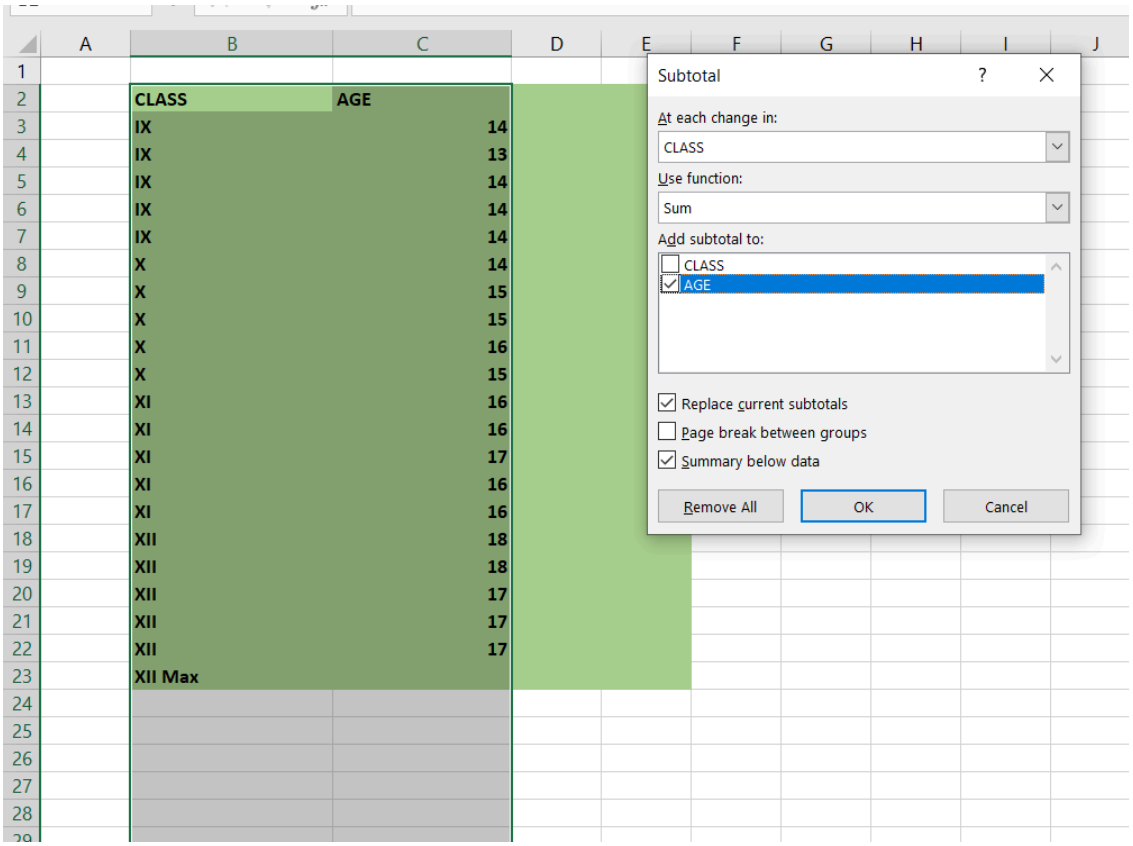
4. You can insert one level of subtotals for a group of data
5. To sort the column that contains the data you want to group by, select that column, and then on the Data tab, in the Sort & Filter group, click Sort A to Z or Sort Z to A.
6. On the Data tab, in the Outline group, click Subtotal
7. The Subtotal dialog box is displayed.
8. In the Use function box, click the summary function that you want to use to calculate the subtotals. For example, using the example above, you would select Sum.
9. If you want an automatic page break following each subtotal, select the Page break between groups check box.

	A	B	C	D	E	F
1						
2		**CLASS**	**AGE**			
3		**IX**	**14**			
4		**IX**	**13**			
5		**IX**	**14**			
6		**IX**	**14**			
7		**IX**	**14**			
8		**X**	**14**			
9		**X**	**15**			
10		**X**	**15**			
11		**X**	**16**			
12		**X**	**15**			
13		**XI**	**16**			
14		**XI**	**16**			
15		**XI**	**17**			
16		**XI**	**16**			
17		**XI**	**16**			
18		**XII**	**18**			
19		**XII**	**18**			
20		**XII**	**17**			
21		**XII**	**17**			
22		**XII**	**17**			
23		**XII Max**				
24						
25						
26						



	CLASS	AGE
3	IX	14
4	IX	13
5	IX	14
6	IX	14
7	IX	14
8	IX Total	69
9	X	14
10	X	15
11	X	15
12	X	16
13	X	15
14	X Total	75
15	XI	16
16	XI	16
17	XI	17
18	XI	16
19	XI	16
20	XI Total	81
21	XII	18
22	XII	18
23	XII	17
24	XII	17
25	XII	17
26	XII Total	87
27	XII Max	
28	XII Max Total	0
29	Grand Total	312

2018 | 2019 | 2020 | CONSOLIDATE DATA | CD SUM | SUBTOTAL | scenario



	CLASS	AGE
3	IX	14
4	IX	13
5	IX	14
6	IX	14
7	IX	14
8	X	14
9	X	15
10	X	15
11	X	16
12	X	15
13	XI	16
14	XI	16
15	XI	17
16	XI	16
17	XI	16
18	XII	18
19	XII	18
20	XII	17
21	XII	17
22	XII	17
23	XII Max	

Subtotal

At each change in:
CLASS

Use function:
Sum

Add subtotal to:
- [ ] CLASS
- [x] AGE

- [x] Replace current subtotals
- [ ] Page break between groups
- [x] Summary below data

Remove All | OK | Cancel

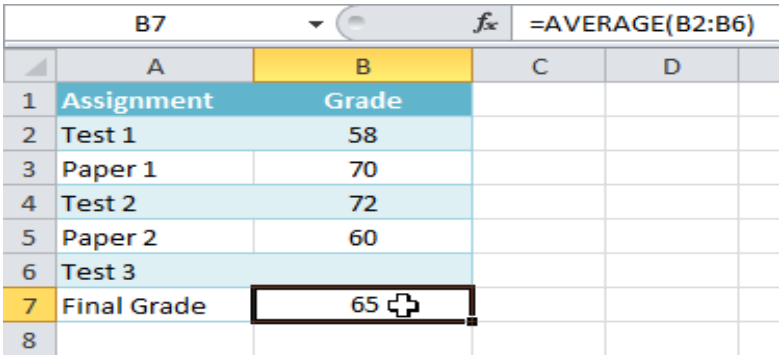
WHAT IF ANALYSIS

What-If Analysis is **the process of changing the values in cells to see how those changes will affect the outcome of formulas on the worksheet**. Three kinds of What-If Analysis tools come with Excel: Scenarios, Goal Seek, and Data Tables. Scenarios and Data tables take sets of input values and determine possible results.

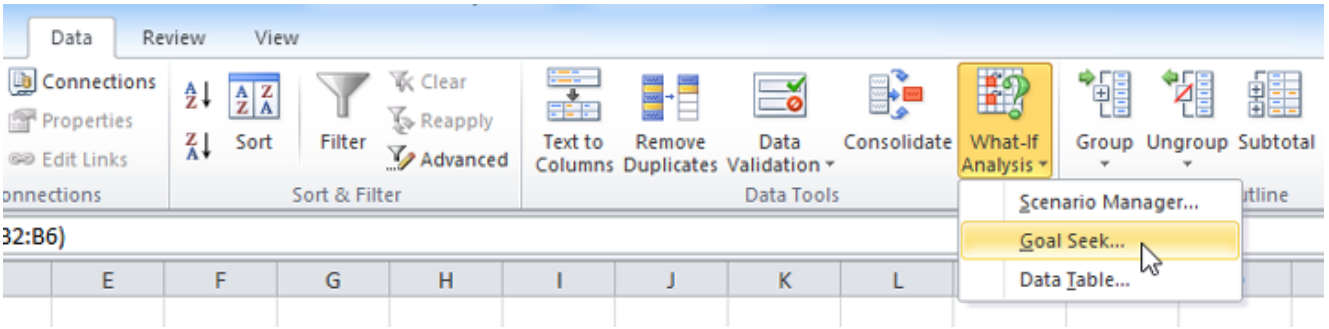
GOAL SEEK

When you create a formula or function in Excel, you put various parts together to calculate a **result**. **Goal Seek** works in the opposite way: It lets you start with the **desired result**, and it calculates the **input value** that will give you that result. We'll use a few examples to show how to use Goal Seek.

Select thecell containing the value you want to change. When you use Goal Seek, you'll need to select a cell that already contains a **formula** or **function**. In our example, we'll select cell **B7** because it contains the formula **=AVERAGE (B2:B6)**.



From the **Data** tab, click the **What-If Analysis** command, then select **Goal Seek** from the drop-down menu.

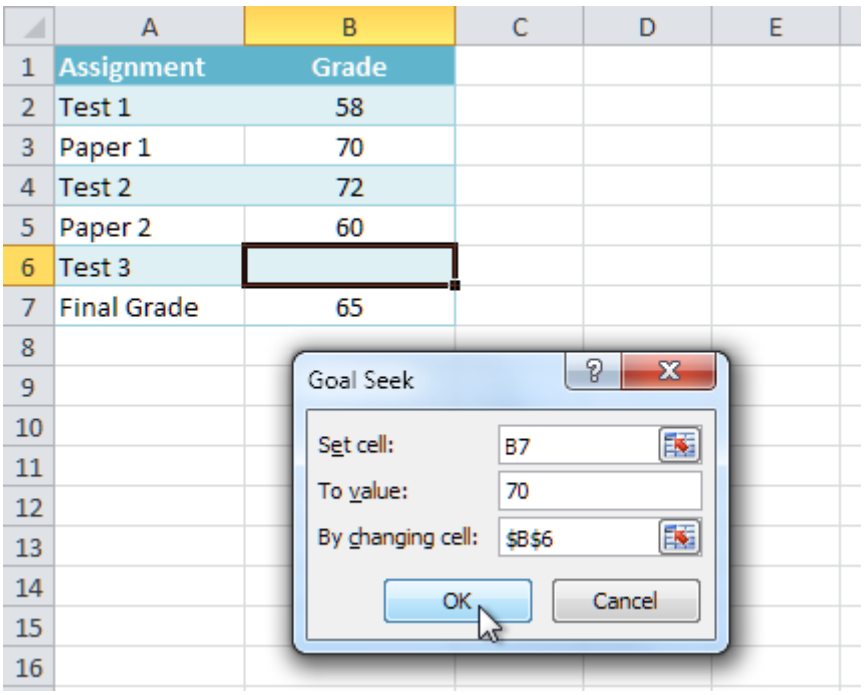


A dialog box will appear with three fields.
Set cell: This is the cell that will contain the desired result. In our example, cell **B7** is already selected.

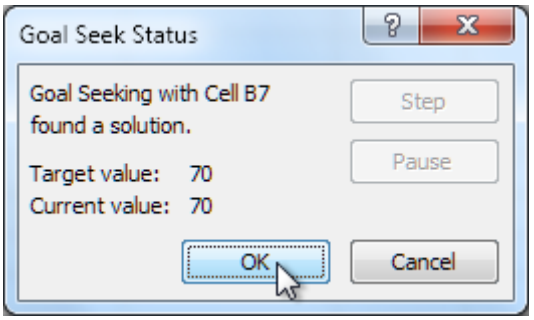
To value: This is the desired result. In our example, we'll enter **70** because we need to earn at least that to pass the class.

By changing cell: This is the cell where Goal Seek will place its answer. In our example, we'll select cell **B6** because we want to determine the grade we need to earn on the final assignment.

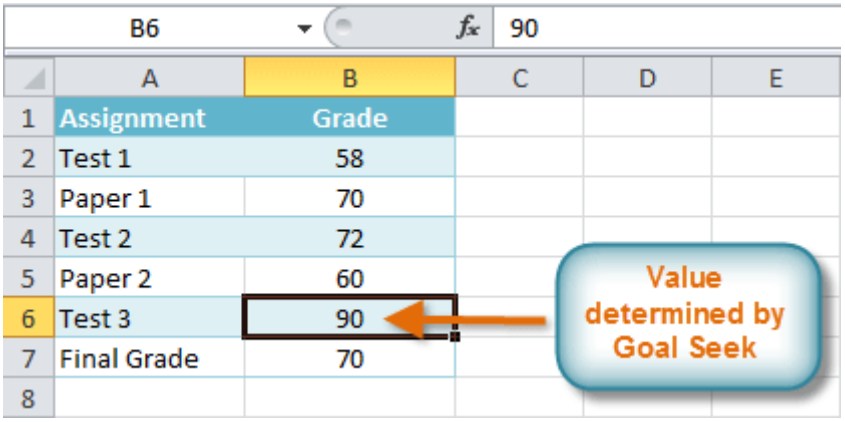
When you're done, click **OK**.

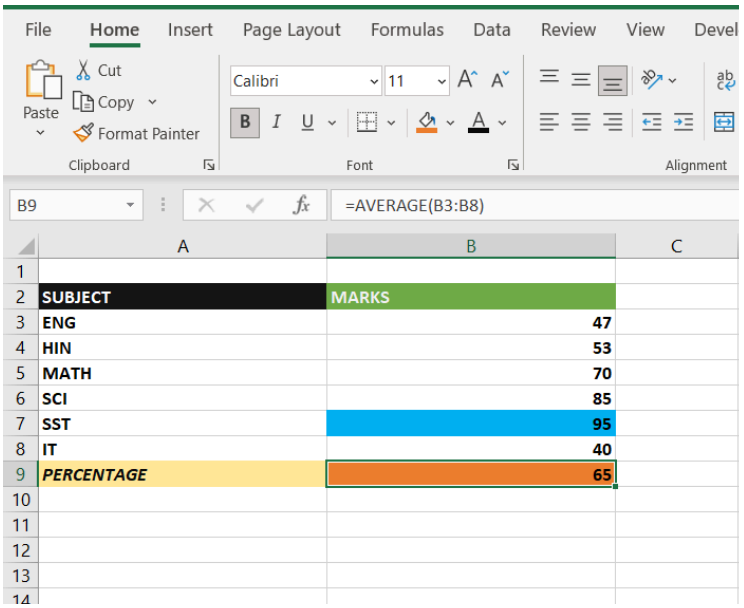


The dialog box will tell you if Goal Seek was able to find a solution. Click **OK**.



The result will appear in the specified cell. In our example, Goal Seek calculated that we will need to score at least a 90 on the final assignment to earn a passing grade.

- 



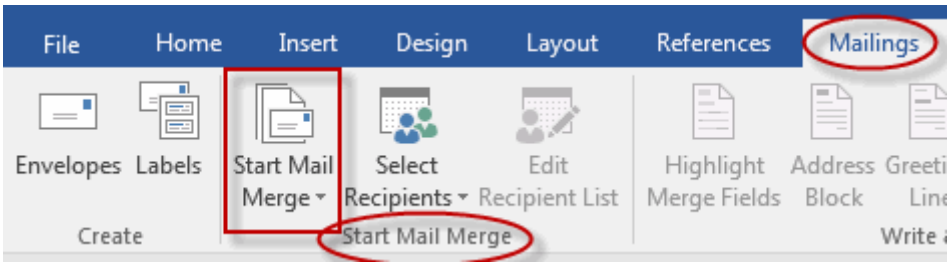
	A	B	C	D	E
1					
2	SUBJECT	MARKS			
3	ENG	47			
4	HIN	53			
5	MATH	70		TARGET VALUE	65
6	SCI	85			
7	SST	95		VARIABLE CELL	B7
8	IT	40			
9	PERCENTAGE	65		FORMULA CELL	B9
10					
11					
12					
13					

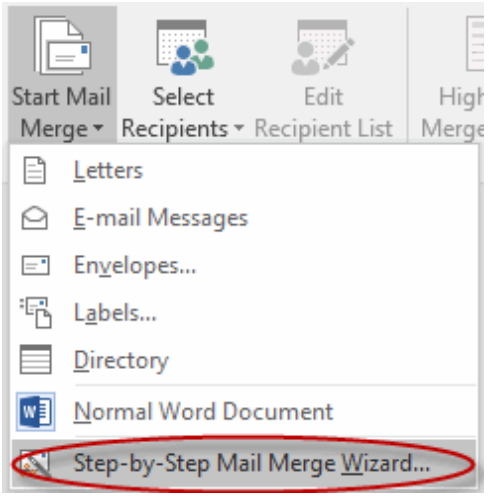
MAIL MERGE

Mail Merge is most often used to print or email form letters to multiple recipients. Using Mail Merge, you can easily customize form letters for individual recipients. Mail merge is also used to create envelopes or labels in bulk.

STEPS

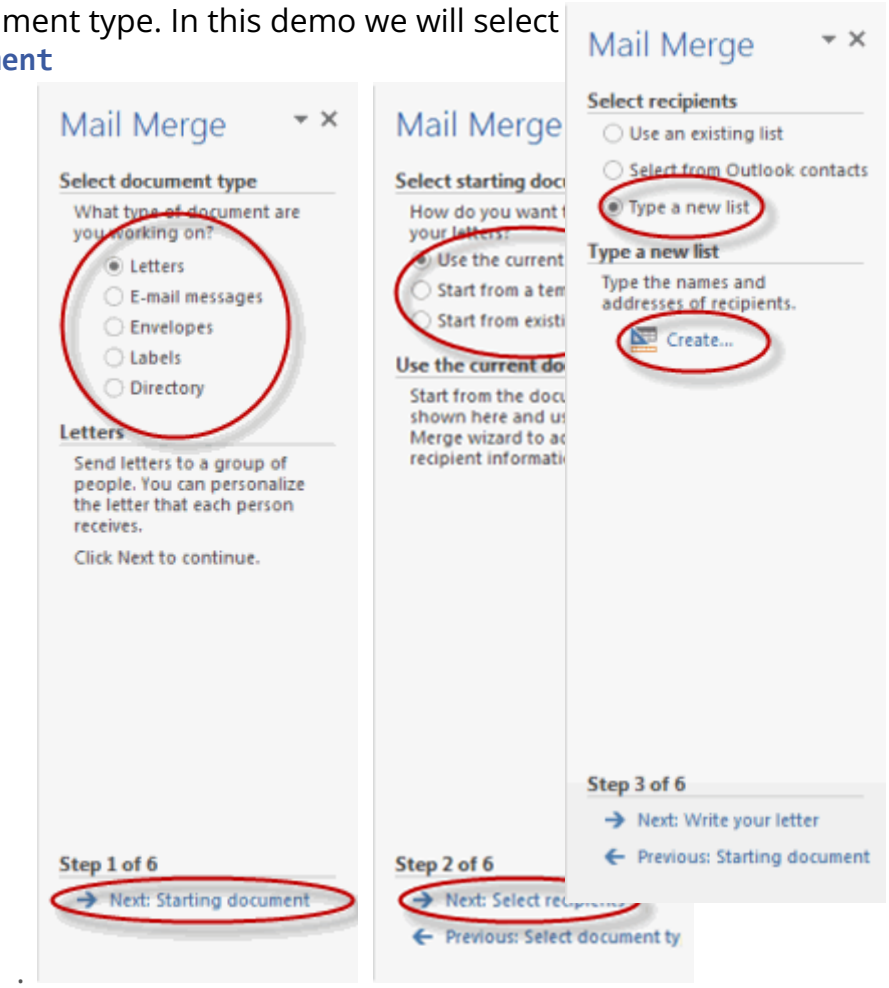
1. In a blank Microsoft Word document, click on the `Mailings` tab, and in the `Start Mail Merge` group, click `Start Mail Merge`.



2. 

2. Click `Step-by-Step Mail Merge Wizard`.

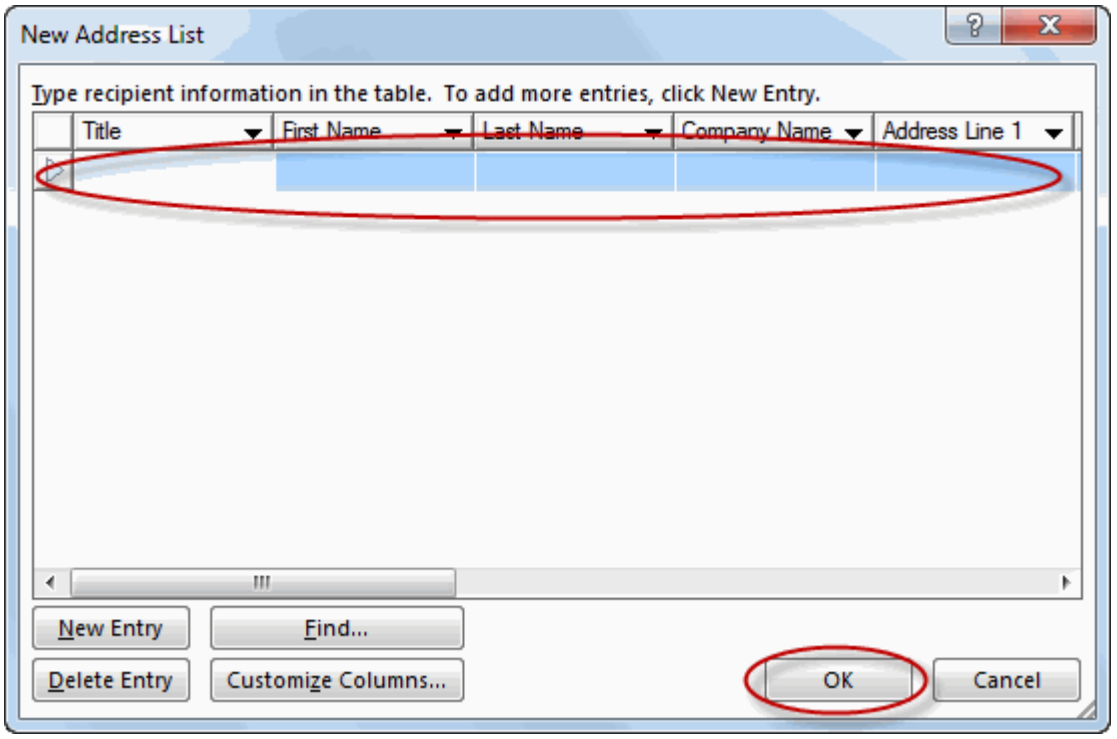
Select your document type. In this demo we will select **`Starting document`**



Select the starting document. In this demo we will use the current (blank) document. Select **Use the current document** and then click **`Next: Select recipients`**.

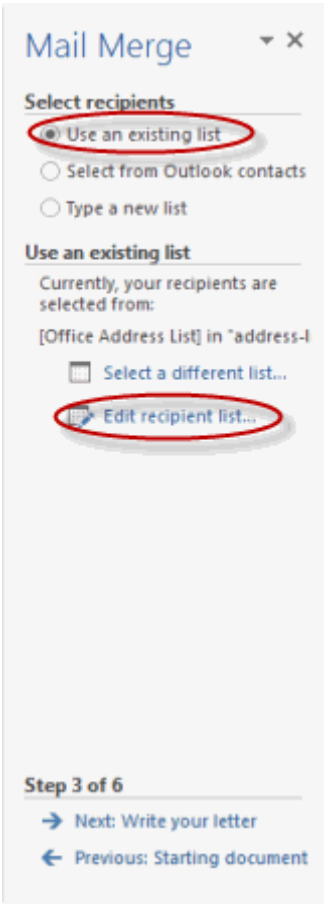
3. Select recipients. In this demo we will create a new list, so select **Type a new list** and then click **`Create`**.

- Create a list by adding data in the **New Address List** dialog box and clicking **OK**.

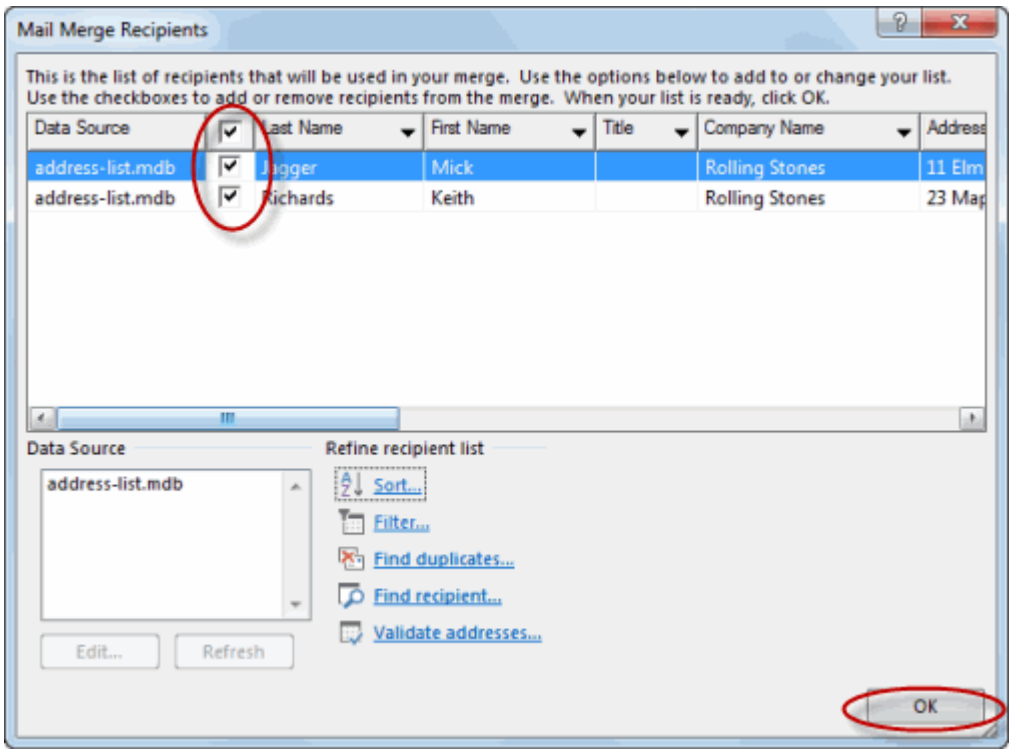


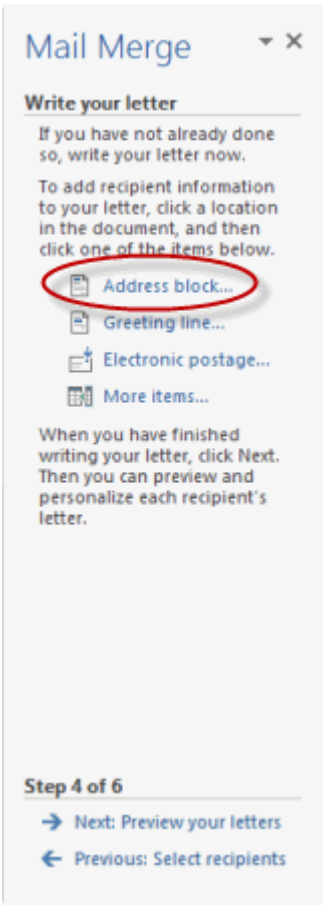
- Save the list.

- Note that now that a list has been created, the Mail Merge Wizard reverts to **Use an existing list** and you have the option to edit the recipient list.



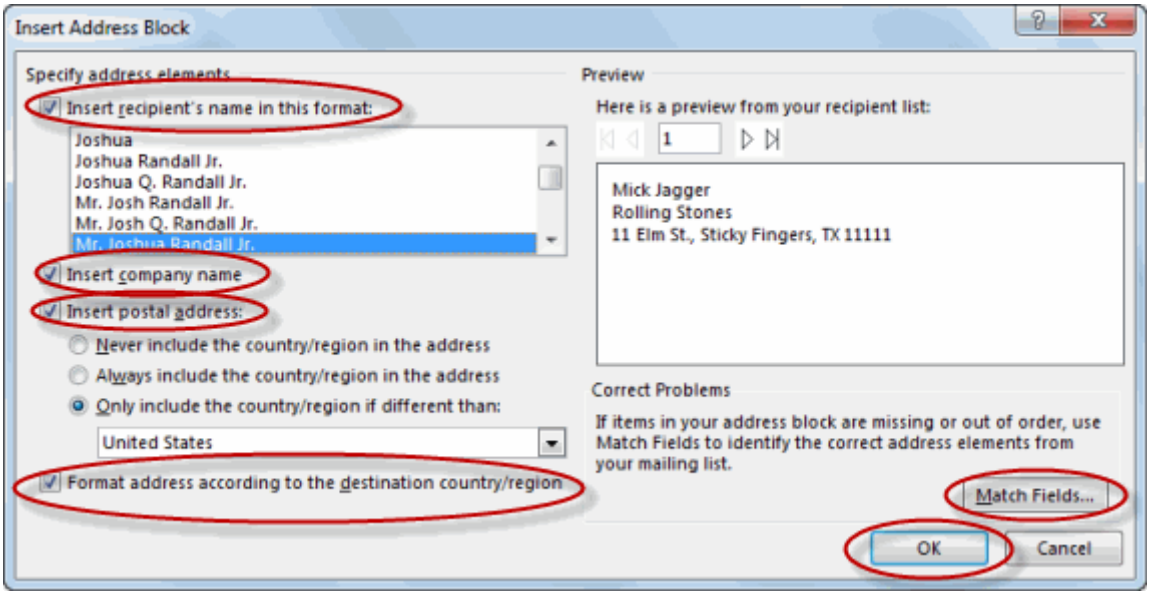
- Selecting **`Edit recipient list`** opens up the **`Mail Merge Recipients`** dialog box, where you can edit the list and select or unselect records. Click **`OK`** to accept the list as is.



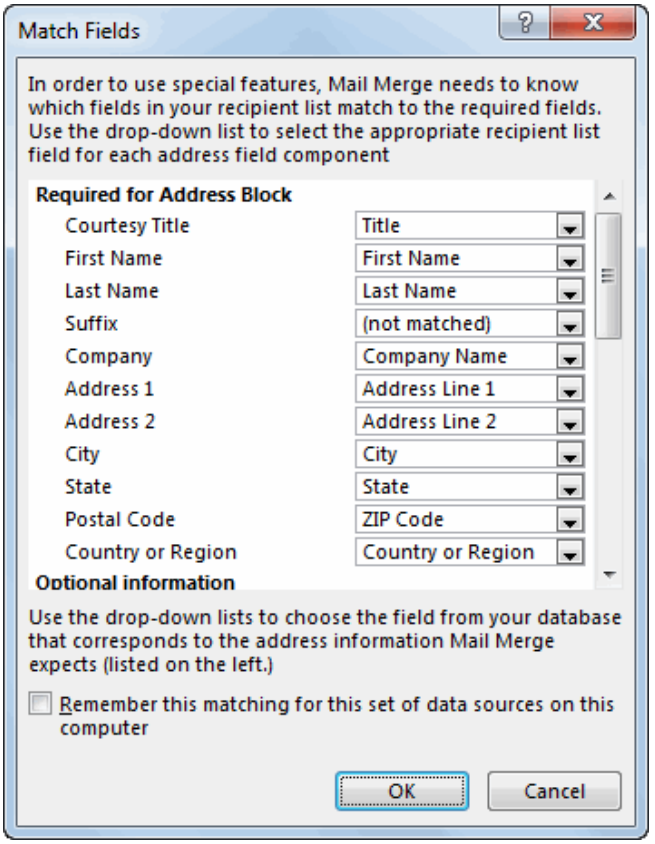


Click **`Next: Write your letter`**. Write the letter and add custom fields. Click **`Address block`** to add the recipients' addresses at the top of the document.

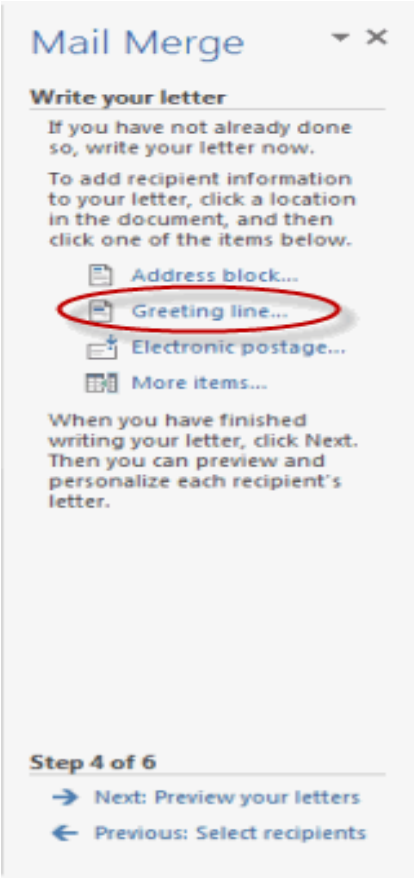
In the **Insert Address Block** dialog box, check or uncheck boxes and select options on the left until the address appears the way you want it to.



Note that you can use **Match Fields** to correct any problems. Clicking **Match Fields** opens up the **Match Fields** dialog box, in which you can associate the fields from your list with the fields required by the wizard.

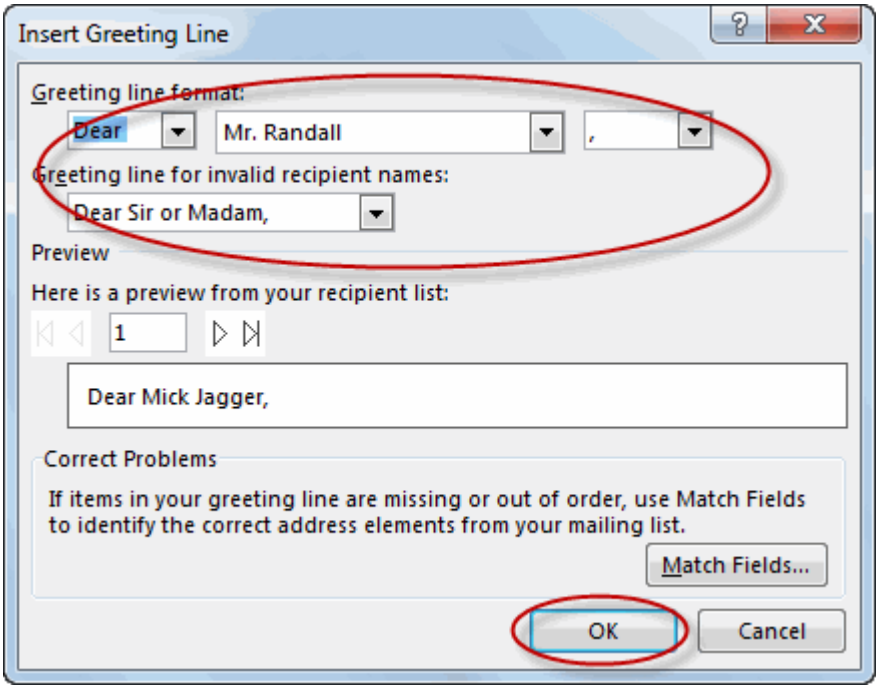


5. Press on your keyboard and click **Greeting line...** to enter a greeting.

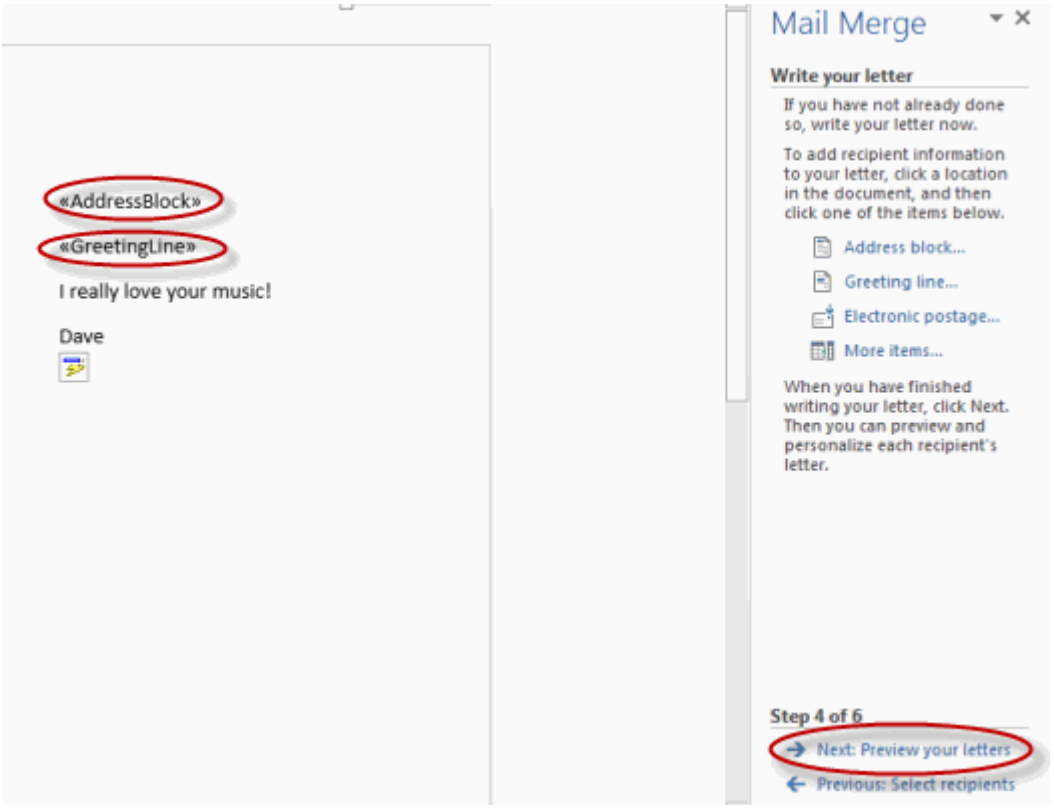


6. In the **Insert Greeting Line** dialog box, choose the greeting line format by clicking the drop-down arrows and selecting the options

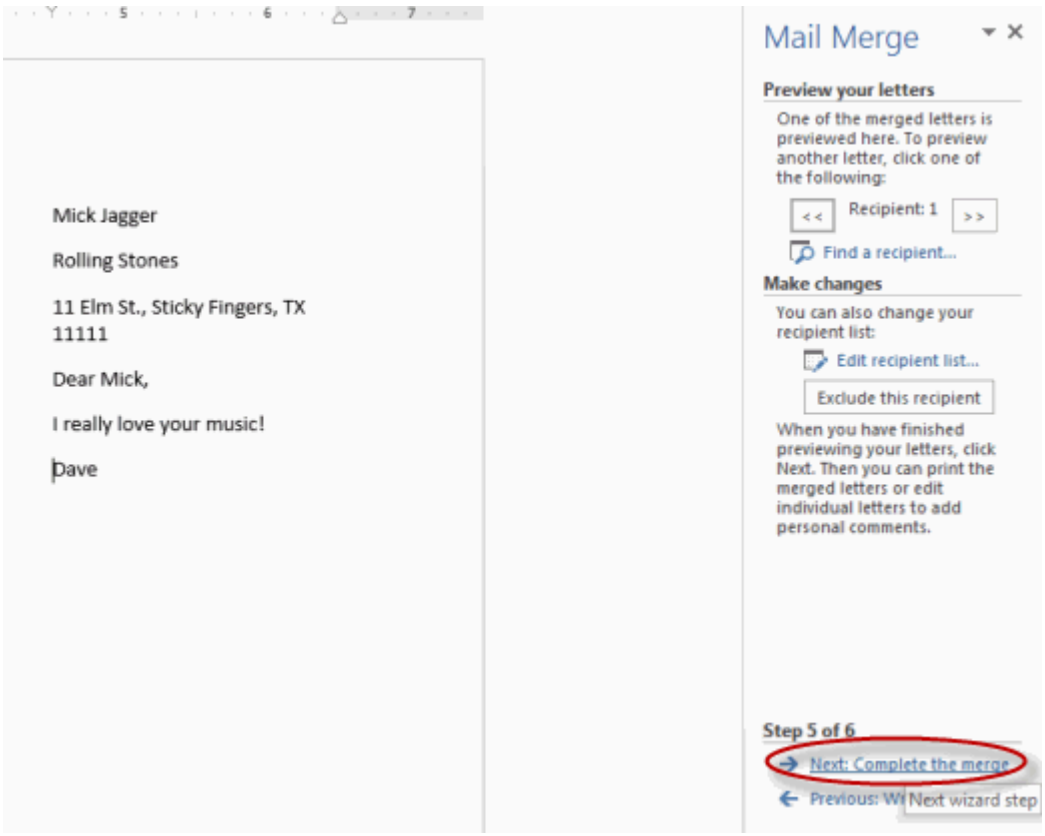
of your choice, and then click **OK**.



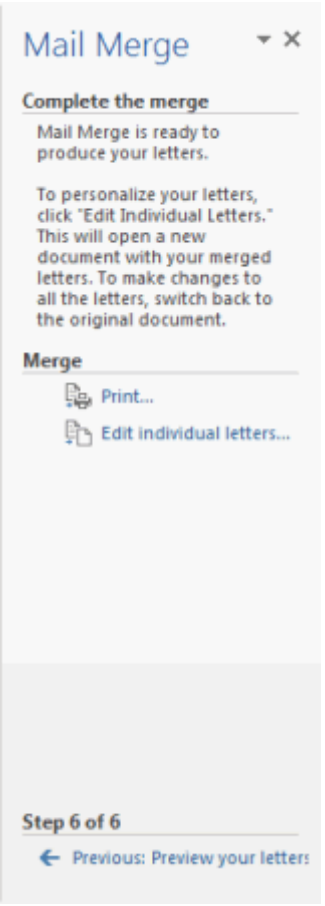
7. Note that the address block and greeting line are surrounded by chevrons (« »). Write a short letter and click **Next: Preview your letters**



Preview your letter and click **Next: Complete the merge**.



- Click **`Print`** to print your letters or **`Edit individual letters`** to further personalize some or all of the letters.



NETWORK TOPOLOGIES

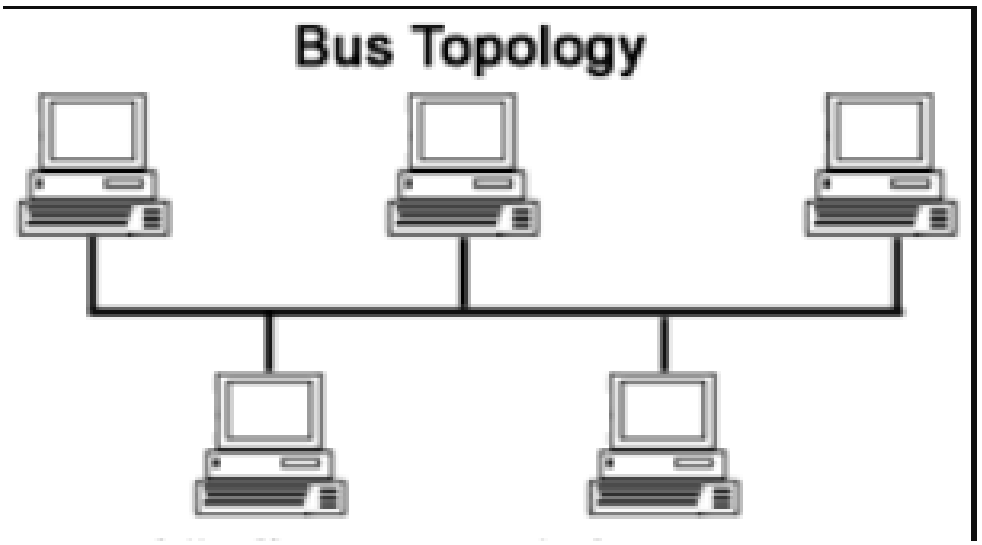
The network topologies refer to pattern or arrangement of computers, which are interconnected in a network

Types of topologies are:

1. Bus Topology

It is a type of network in which the computers and peripheral devices are connected to a common single length data line.

All computers are directly connected to data line



Advantages

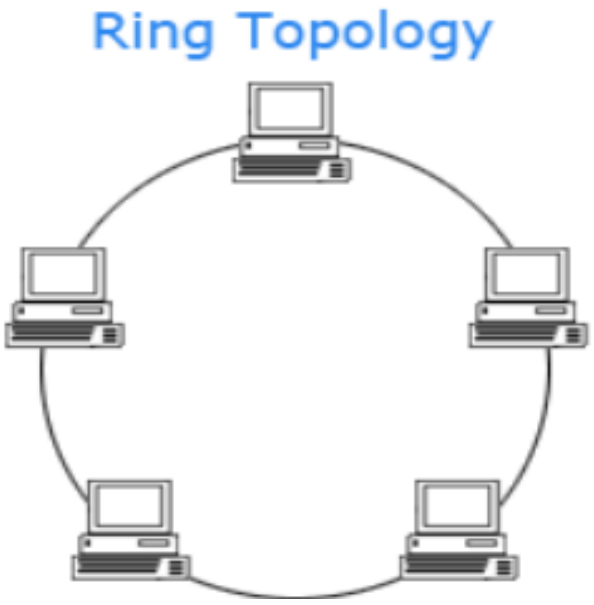
- It is the easiest network topology for connecting peripherals or computers in a linear fashion.
- It works very efficient well when there is a small network.
- Length of cable required is less than a star topology.
- It is easy to connect or remove devices in this network without affecting any other device.
- Very cost-effective as compared to another network topology i.e., mesh and star
- It is easy to understand topology.
- Easy to expand by joining the two cables together.

Disadvantages

- Bus topology is not great for large networks.
- Identification of problem becomes difficult if whole network goes down.
- Troubleshooting of individual device issues is very hard.
- Need of terminators are required at both ends of main cable.
- Additional devices slow network down.

2. RING TOPOLOGY

In this topology, each node is connected to two neighboring nodes. The data travels in one direction only from one node to another node around the ring, after passing through each ode the data comes back to the sender



Advantages of Ring topology:

- In this data flows in one direction which reduces the chance of packet collisions.
- In this topology additional workstations can be added after without impacting performance of the network.
- Equal access to the resources.
- There is no need of server to control the connectivity among the nodes in the topology.
- It is cheap to install and expand.
- Minimum collision.

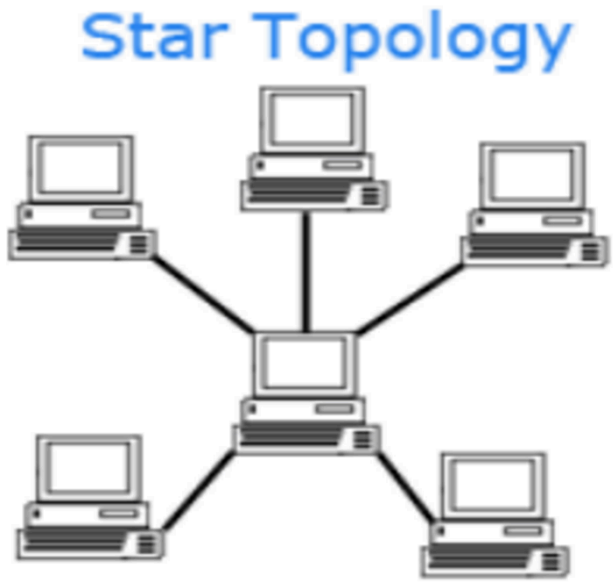
Disadvantages of Ring topology:

- Due to the Uni-directional Ring, a data packet (token) must have to pass through all the nodes.
- If one workstation shuts down, it affects whole network or if a node goes down entire network goes down.
- It is slower in performance as compared to the bus topology
- It is Expensive.

3. Star Topology

In this topology, there persists a central node called server or hub which is connected to nodes directly

If a node has to take information from other node, then the data is taken from that node through the central node or server



Advantages

- It is reliable – if one cable or device fails then all the others will still work
- It is high performing as no data collisions can occur
- Less expensive because each device only needs one I/O port and wishes to be connected with hub with one link.
- Easier to put in
- Robust in nature
- Easy fault detection because the link is often easily identified.
- Disadvantages
- Requires more cable than a linear bus.

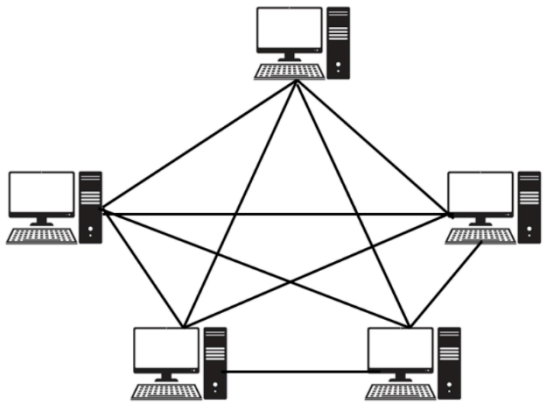
- If the connecting network device (network switch) fails, nodes attached are disabled and can't participate in network communication.
- More expensive than linear bus topology due to the value of the connecting devices (network switches)
- If hub goes down everything goes down, none of the devices can work without hub.

4. MESH TOPOLOGY

In this topology, each node is connected to more than one node, so that it provides alternative routes, in case, if the host is either down or busy.

It is also called a completely interconnected network. We can also call it as an extension to P2P network.

Mesh Topology



Advantages

- Failure during a single device won't break the network.
- There is no traffic problem as there is a dedicated point to point links for every computer.
- Fault identification is straightforward.

- This topology provides multiple paths to succeed in the destination and tons of redundancy.
- It provides high privacy and security.
- Data transmission is more consistent because failure doesn't disrupt its processes.

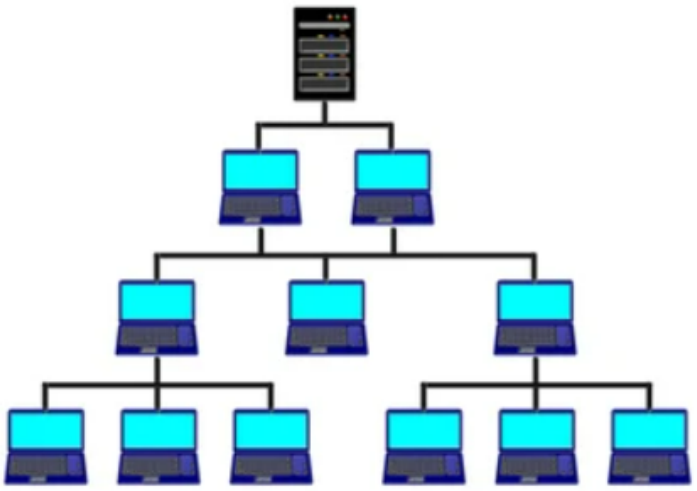
Disadvantage

- It's costly as compared to the opposite network topologies i.e., star, bus, point to point topology.
- Installation is extremely difficult in the mesh.
- Power requirement is higher as all the nodes will need to remain active all the time and share the load.
- Complex process.
- The cost to implement mesh is above other selections.
- There is a high risk of redundant connections.

5. TREE TOPOLOGY

It is an extension and variation of bus topology. its basic structure is like an inverted tree, which the roots acts as a server.

In tree topology, the node is interconnected in form of a tree. If one node fails, then the node following that node gets detached from the main topology tree.



Advantages of Tree Topology :

- This topology is the combination of bus and star topology.
- This topology provides a hierarchical as well as central data arrangement of the nodes.
- As the leaf nodes can add one or more nodes in the hierarchical chain, this topology provides high scalability.
- The other nodes in a network are not affected, if one of their nodes get damaged or not working.
- Tree topology provides easy maintenance and easy fault identification can be done.

Disadvantages of Tree Topology :

- This network is very difficult to configure as compared to the other network topologies.
- Length of a segment is limited & the limit of the segment depends on the type of cabling used.
- Due to the presence of large number of nodes, the network performance of tree topology becomes a bit slowly.
- If the computer in first level is erroneous, next level computer will also go under problems.

PROTOCOLS AND SHORT FORMS (ABBREVIATIONS)

AMV ANIMATED MUSIC VIDEO

ARPANET ADVANCED RESEARCH PROJECT AGENCY NETWORK

ATM AUTOMATED TELLER MACHINE

B2B BUISNESS TO BUISNESS

B2C BUISNESS TO CONSUMER

BWA BROADBAND WIRELESS ACCESS

CD Compact Disk

CPU Central Processing Unit

DVD Digital Versatile Disk

DVI Digital Visual Interface

EPR Erasable Programmable Read-Only Memory

FDD Floppy Disk Drive

GUI Graphical User Interface

HDD Hard Disk Drive

HLL High-Level Language

HTML Hypertext Markup Language

HTTP Hypertext Transfer Protocol

I/O Input/Output

IP Internet Protocol

ISP Internet Service Provider

LAN Local Area Network

LCD Liquid-Crystal Display

LLL Low-Level Language

MAN Metropolitan Area Network

NTP Network Time Protocol

POST Power-On Self-Test

PROM Programmable Read-Only Memory

PSU Power Supply Unit

RAM Random Access Memory

ROM Read-Only Memory

SMS Short Message Service

SSD Solid State Drive

TCP/IP Transmission Control Protocol/Internet Protocol

URL Uniform Resource Locator

VDU Visual Display Unit

WAN Wide Area Network

WWW World Wide Web

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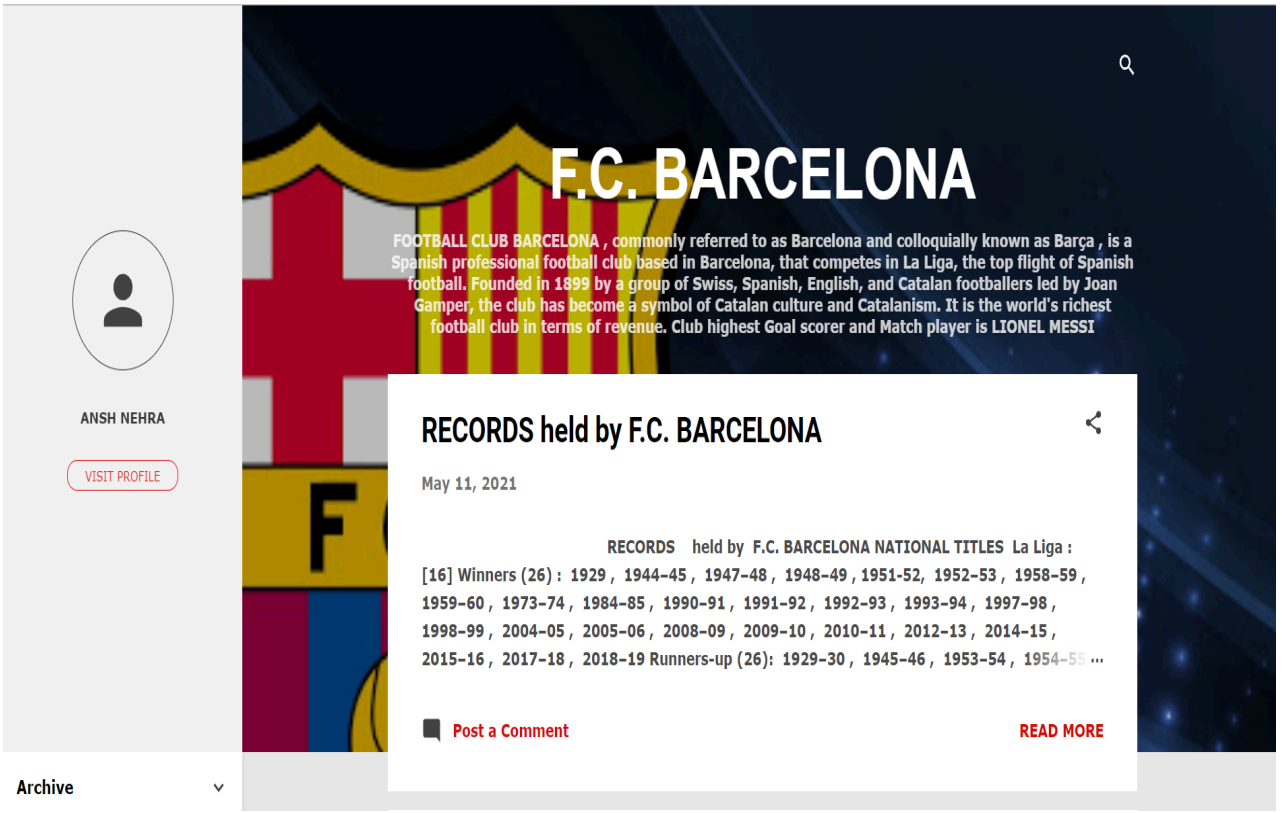

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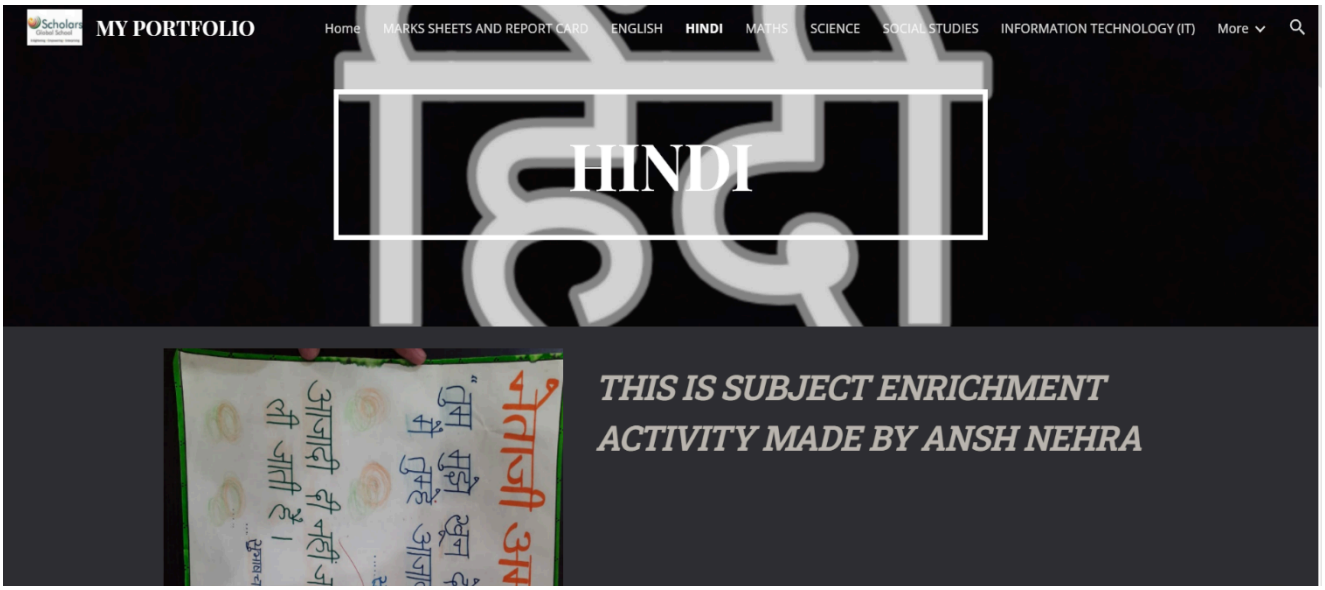

EXTRA CURICULAR ACTIVITIES

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