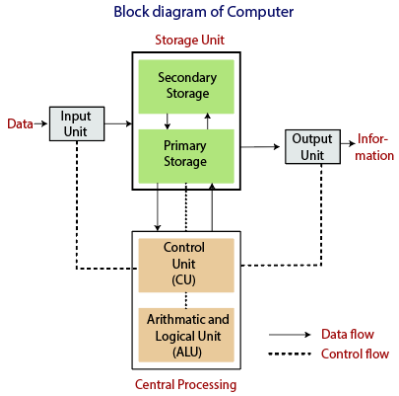
CCA-101: Fundamentals of IT & Programming

Assignment -1

Q1: What are the four fundamental parts of computer? Explain it with the help of diagram.

There are four main computer hardware components that this blog post will cover: **input devices**, processing devices, **output** devices and **memory** (storage) devices. Collectively, these hardware components make up the computer system.



Q2: Discuss about the classification of computers based on size and capacity?

Computer's Classification

Computers are classified on different parameters, such as, storage capacity, processing speed and component (CPU) used in computers. Depending upon the components used and features of different computers, they are classified into four groups, Microcomputers, Minicomputers, Mainframe computers and Supercomputers.

Micro Computers

Micro Computer is a computer whose CPU (Central Processing Unit) is a microprocessor. All the components of a microprocessor are on a single integrated circuit chip. Micro computer can be categorized as the desktop, programmable and workstation. The microprocessor based computers

are called third generation computers. They are the backbone of the modern computer era. The first and second generation computers are based on vacuum tubes and bipolar junction transistors.

Mini Computers

Minicomputers were introduced in early 1960s. They were faster than micro computers. Basically these computers were mainly multi-user systems, where many users work on the systems. Generally these types of computers had larger memories and greater storage capacity. They had large instruction set and address field. These kinds of computers have efficient storage for handling of text, in comparison to lower bit machines. Due to more efficient processor, speed and memory size, minicomputer was used in variety of applications and could support business applications along with the scientific applications. Minicomputer was a multi-user system which means more than one user could use this system simultaneously.

Mainframe Computers

Mainframe computers are large and expensive machines. The word length of mainframe computers may be 48, 60 or 64 bits, memory capacity being in some megabytes and storage capacity in some terabytes. Generally they handle huge volumes of information and data. In terms of speed, they are having significant processing capacity. They are used in research organizations, large industries, airlines reservation where a large database has to be maintained.

Super Computers

Super Computers are the fastest computer in current era. The processing capabilities of super computer lies in the range of GIPS2, word length 64-128 or may be in 256 or so. The memory capacity of super computer is in some gigabytes or in terabytes. The storage capacity of this type of computer is in exabytes.

Q3: What is the meaning of computer generation? How many Computer Generations are defined? What technologies were/ are used?

Introduction:

A computer is an electronic device that manipulates information or data. It has the ability to store, retrieve, and process data.
Nowadays, a computer can be used to type documents, send email, play games, and browse the Web. It can also be used to edit or create spreadsheets, presentations, and even videos. But the evolution of this complex system started around 1940 with the first Generation of Computer and evolving ever since.

There are five generations of computers.

1. **FIRST GENERATION**

Introduction:

1. 1946-1959 is the period of first generation computer.
2. J.P.Eckert and J.W.Mauchy invented the first successful electronic computer called ENIAC, ENIAC stands for “Electronic Numeric Integrated And Calculator”.

- ***Few Examples are:***

1. ENIAC
2. EDVAC
3. UNIVAC

2 SECOND GENERATION

- ***Introduction:***
  1. 1959-1965 is the period of second-generation computer.
  2. 3.Second generation computers were based on Transistor instead of vacuum tubes.
- ***Few Examples are:***
  1. Honeywell 400

3 THIRD GENERATION

- ***Introduction:***
  1. 1965-1971 is the period of third generation computer.
  2. These computers were based on Integrated circuits.
  3. IC was invented by Robert Noyce and Jack Kilby In 1958-1959.
  4. IC was a single component containing number of transistors.
- ***Few Examples are:***
  1. PDP-8
  2. PDP-11

1. **4 FOURTH GENERATION**

- ***Introduction:***
  1. 1971-1980 is the period of fourth generation computer.
  2. This technology is based on Microprocessor.
  3. A microprocessor is used in a computer for any logical and arithmetic function to be performed in any program.
  4. Graphics User Interface (GUI) technology was exploited to offer more comfort to users.
- ***Few Examples are:***
  1. IBM 4341

5 FIFTH GENERATION

- ***Introduction:***
  1. The period of the fifth generation in 1980-onwards.
  2. This generation is based on artificial intelligence.
  3. The aim of the fifth generation is to make a device which could respond to natural language input and are capable of learning and self-organization.

4. This generation is based on ULSI(Ultra Large Scale Integration) technology resulting in the production of microprocessor chips having ten million electronic component.

- *Few Examples are:*
  AI

Q4: Differentiate between Volatile & Non- Volatile memories.

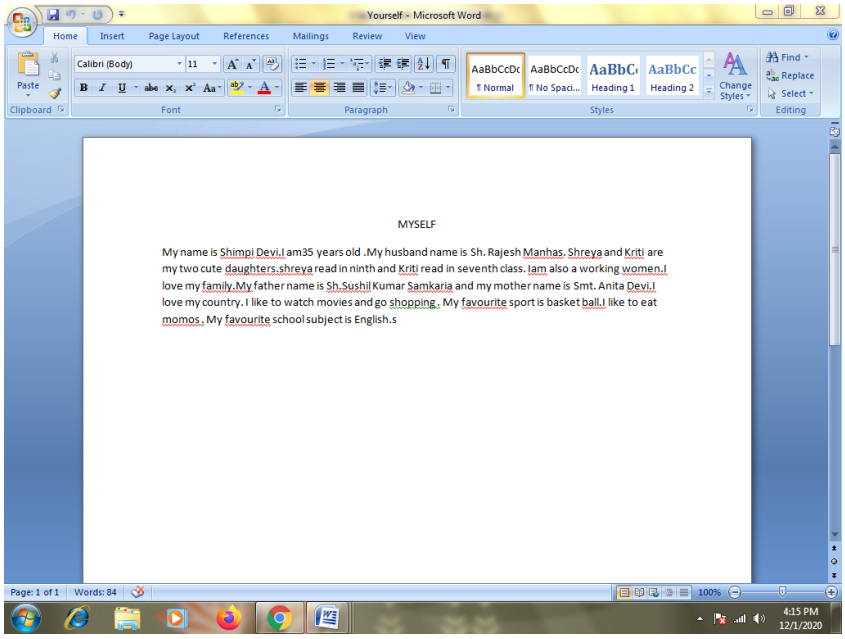
Volatile Memory:
It is the memory hardware that fetches/stores data at a high-speed. It is also referred as temporary memory. The data within the volatile memory is stored till the system is capable of, but once the system is turned off the data within the volatile memory is deleted automatically. RAM (Random Access Memory) and Cache Memory are some common examples of volatile memory. Here, data fetch/store is fast and economical.

Non-Volatile Memory:
It is the type of memory in which data or information is not lost within the memory even power is shut-down. ROM (Read Only Memory) is the most common example of non-volatile memory. It's not economical and slow in fetch/store as compared to volatile memory however stores higher volume of data. All such information that needs to be stored for an extended amount of time is stored in non-volatile memory. Non-volatile memory has a huge impact on a system's storage capacity.

Q5: Distinguish among system software, application software and open source software on the basis of their features.

System software is used for operating computer hardware. On other hand Application software is used by user to perform specific task. System software are installed on the computer when operating system is installed. On other hand Application software are installed according to user's requirements.

Q6. a) Create a file in MS-word to insert a paragraph about yourself and save it with file name "yourself". Describe all steps involved in it



Q6b.Write steps regarding

- To change the font

To change the font type within a Microsoft Word document, follow the steps below.

1. Highlight the text you want to change.
2. Click the down arrow next to the font field on the format bar or Ribbon. (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, you can select from each of the installed fonts on your computer. Click the font you want to use and the highlighted text changes.

- To change the font size

1. Select the text with text you want to **change**. To select all text in a **Word** document, press Ctrl + A.
2. On the Home tab, click the **font size** in the **Font Size** box. You can also type in any **size** you want

- To change the font color.

1. Select the **text** that you want to **change**.
2. On the Home tab, in the **Font** group, choose the arrow next to **Font Color**, and then select a **color**. You can also use the formatting options on the Mini toolbar to quickly format **text**.

- To highlight (in yellow)the line that reads ”need to get IMS”s address”.

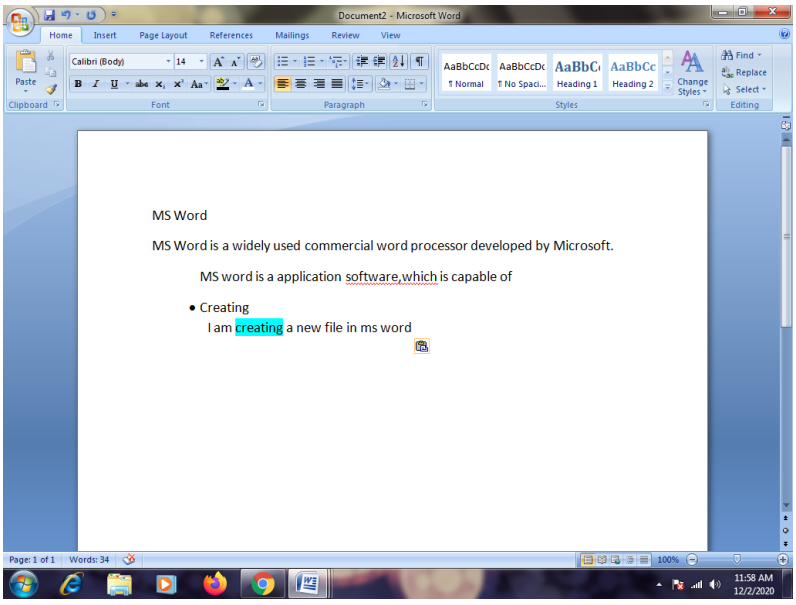
- Select the **text** that you want to **change**.
- On the Home tab, in the **Font** group, choose the arrow next to **Font Color**, and then select a **color**. You can also use the formatting options on the Mini toolbar to quickly format **text**.

Q7. Create a file in MS-Word for the following document and save it with file name ‘ms_word’. Describe all steps involved in it.

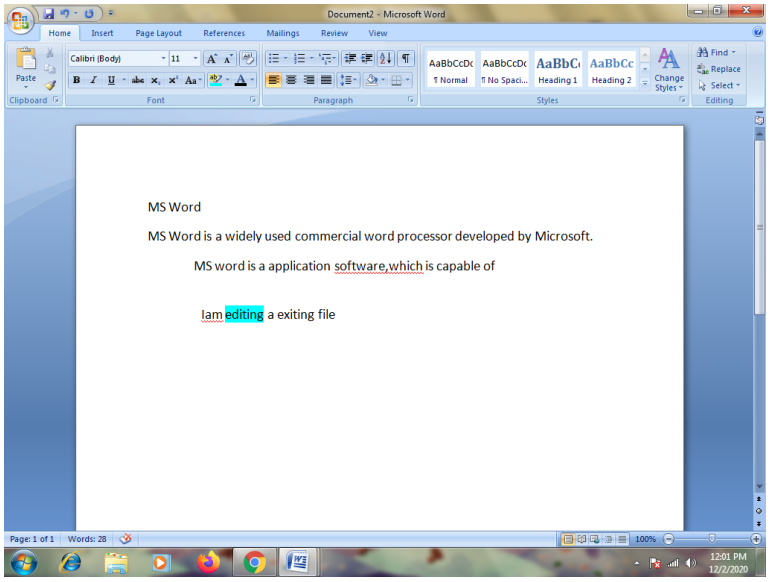
MS Word is a widely used commercial word processor developed by Microsoft.

MS word is a application software,which is capable of

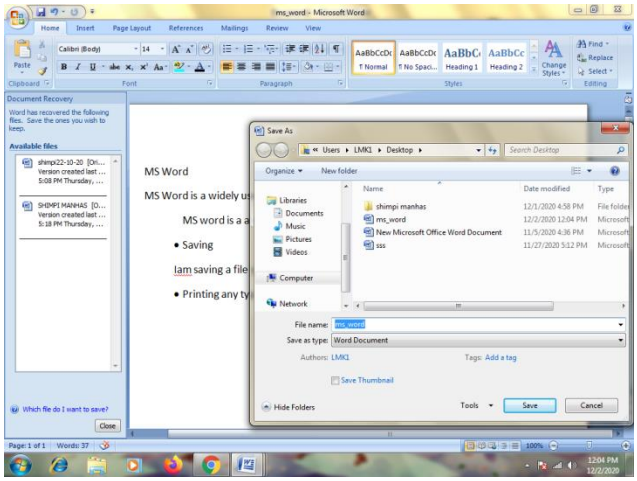
- Creating



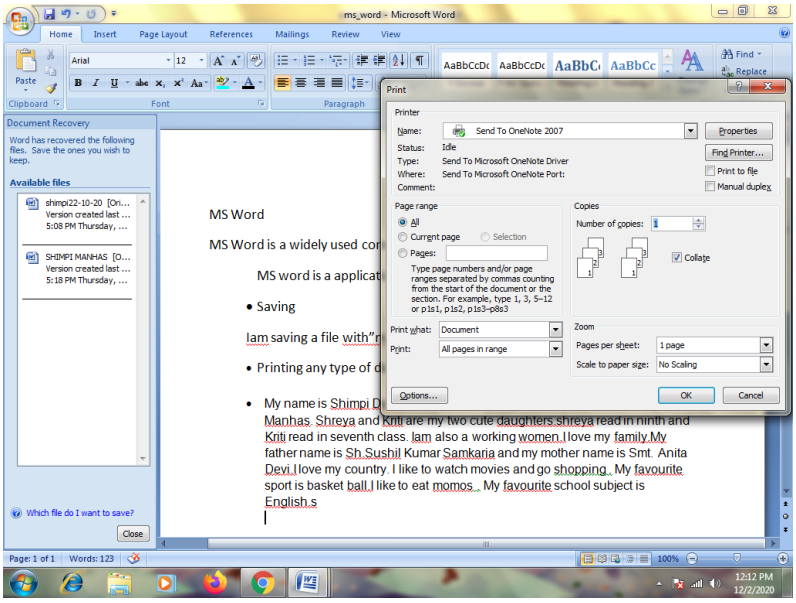
- Editing



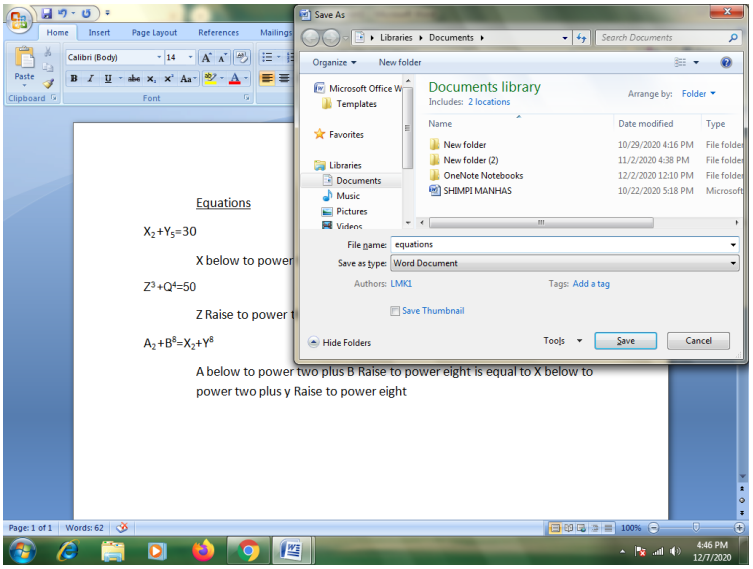
- Saving,



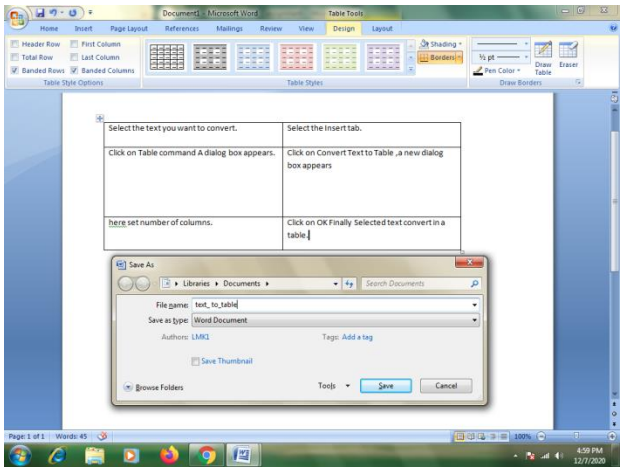
- Printing any type of document



Q8. Create a file in Ms_word for the following and save it with "**equations"**. Describe all steps involve in it.



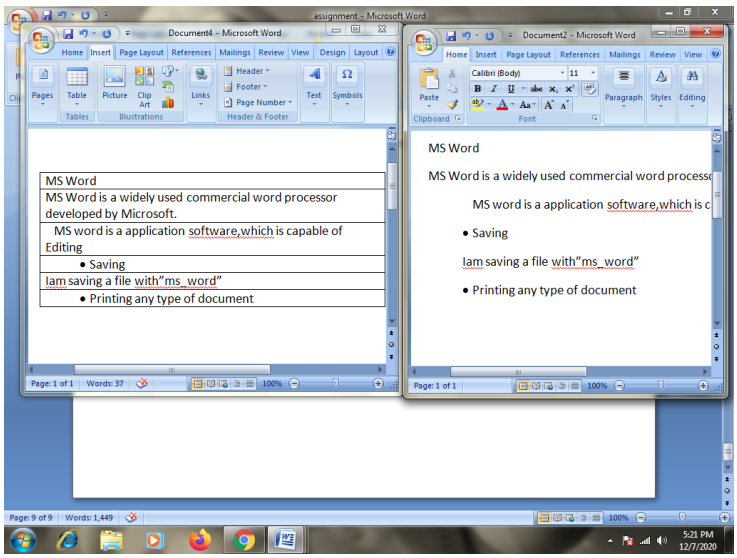
Q9.Creat a file in MS-Word to insert a table in the document. Describe all steps involved in it.



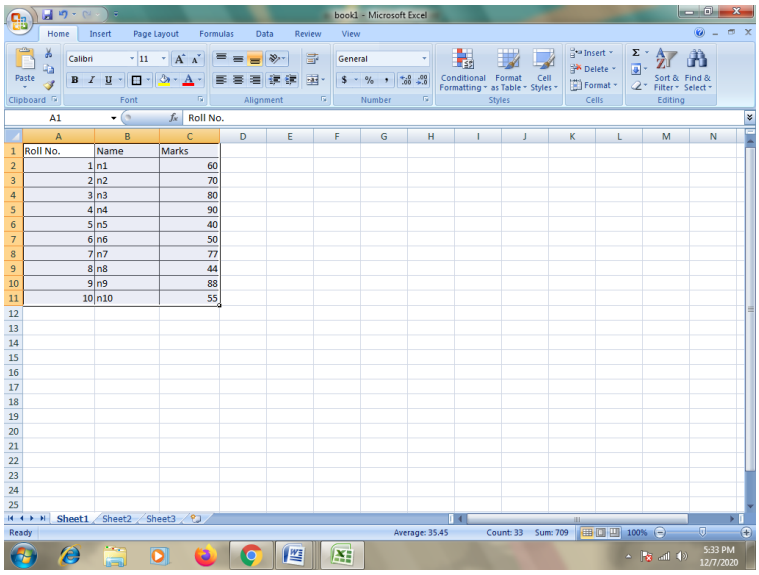
STEPS:

Select the text you want to convert
Select the Insert tab.
Click on TABLE command. Adialogs appears .
Click on Convert Text to Table, a new dialog box appears .
Here set number of column .
Click OK
Finally selected text convert into table.

Q10: Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.



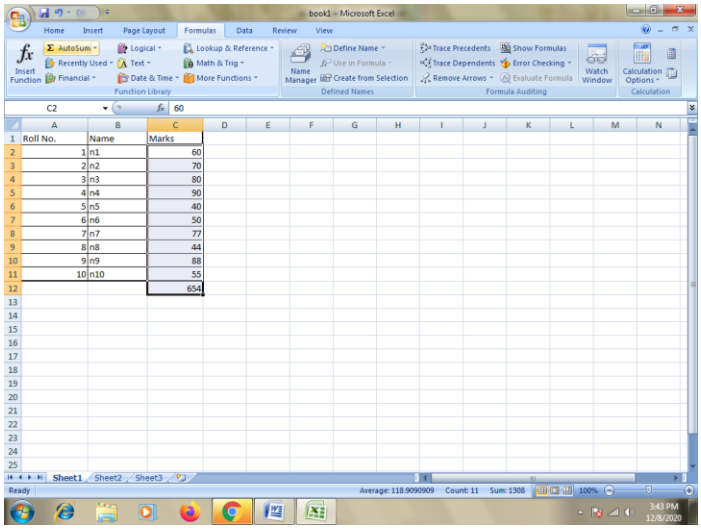
Q11: Create a following work sheet in MS-Excel and save it with name'book1'.



Roll No.	Name	Marks
1	n1	60
2	n2	70
3	n3	80
4	n4	90
5	n5	40
6	n6	50
7	n7	77
8	n8	44
9	n9	88
10	n10	55

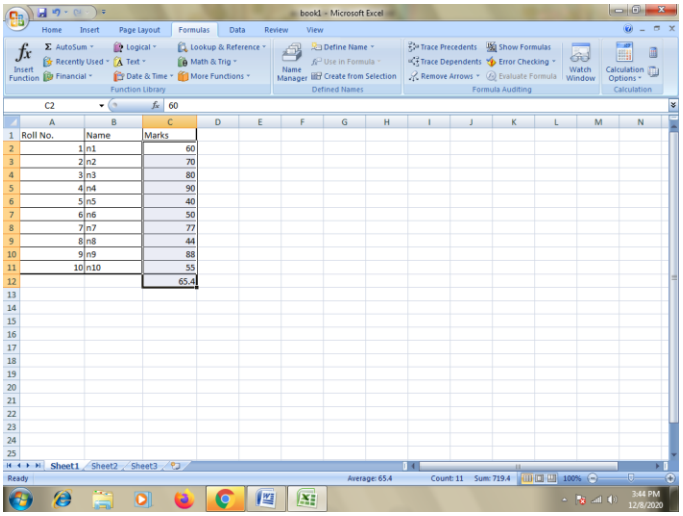
Q12: Calculate the following things of a range (C2:C11) of data in the work sheet created in question no 10

- The sum of the marks using AutoSum in a range (C2:C11)

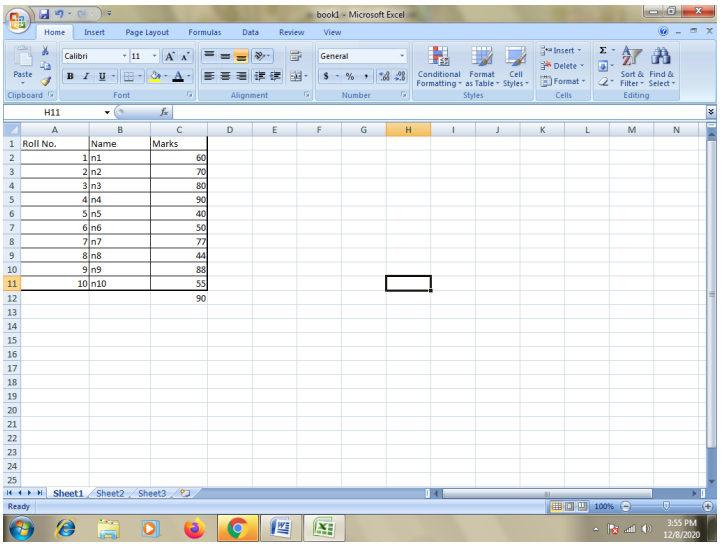


Roll No.	Name	Marks
1	n1	60
2	n2	70
3	n3	80
4	n4	90
5	n5	40
6	n6	50
7	n7	77
8	n8	44
9	n9	88
10	n10	55
		654

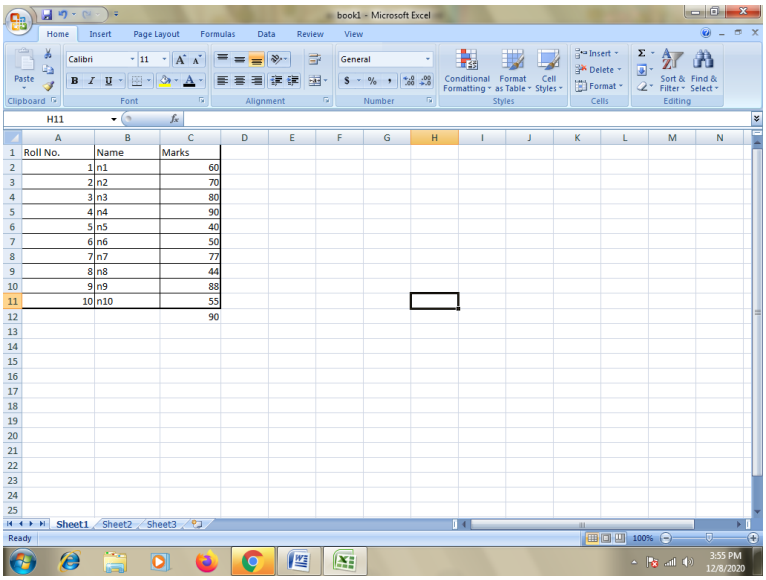
- Average of marks in a range of cell (C2:C11)



- Highest marks in a range of cell (C2:C11)



- marks in a range of cell (C2:C11)



Q13: a) Describe various steps involve in the following

- To modify column width of a work sheet

1. Position the mouse over the **column** line in the **column** heading so the cursor becomes a double arrow.
2. Click and drag the mouse **to increase** or decrease the **column width**.
3. Release the mouse. The **column width** will be changed.

- To modify row height of a work sheet
    1. To change the height of **one row**, drag the lower boundary of the row heading until the row is set to the desired height.

    2. To change the height of **multiple row,** select the rows of interest and drag the boundary below any row heading in the selection.

- To delete row and column of a work sheet
  To delete row

1. Select a cell in the row to be deleted.
2. Choose **Edit → Delete** from the menu bar.
3. Click **Entire Row** in the **Delete** dialog box.

To delete column

1. Select a cell in the column to be deleted.
2. Choose **Edit → Delete** from the menu bar.
3. Click **Entire Column** in the **Delete** dialog box.

Q13.b) Describe the following terms in the worksheet

- Absolute reference and relative reference in formula

relative cell references change when you copy the formula to other cells.

Unlike relative cell references, absolute cell references don't change when you copy the formula to other cells.

- Cell address

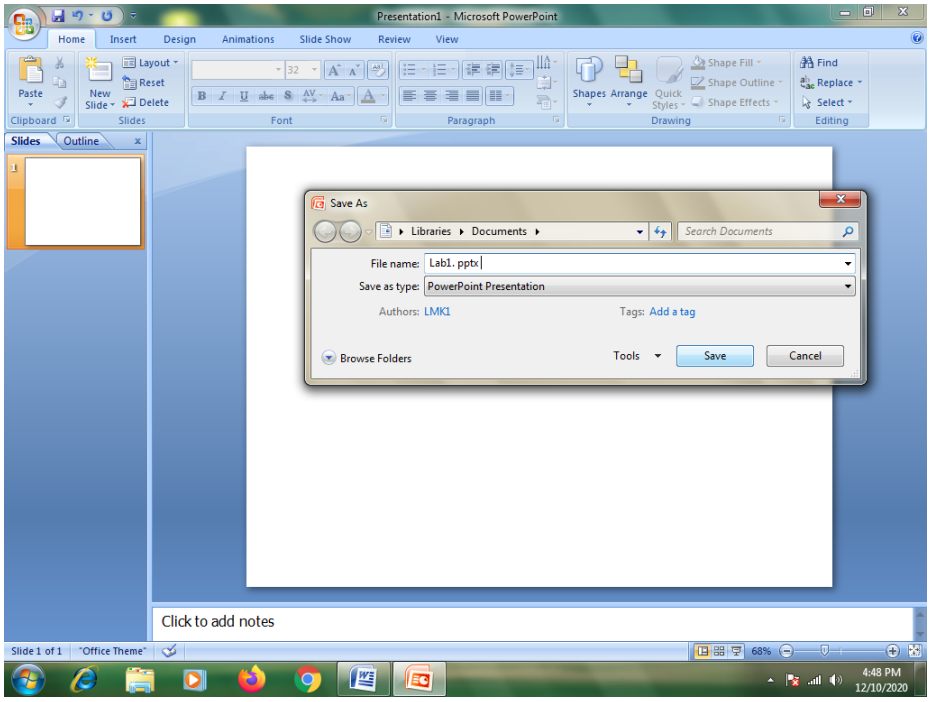
A **cell reference**, or **cell address**, is an alphanumeric value used to identify a specific **cell** in a spreadsheet.

- Q14:a)What tools are available to customize our power point presentation ?

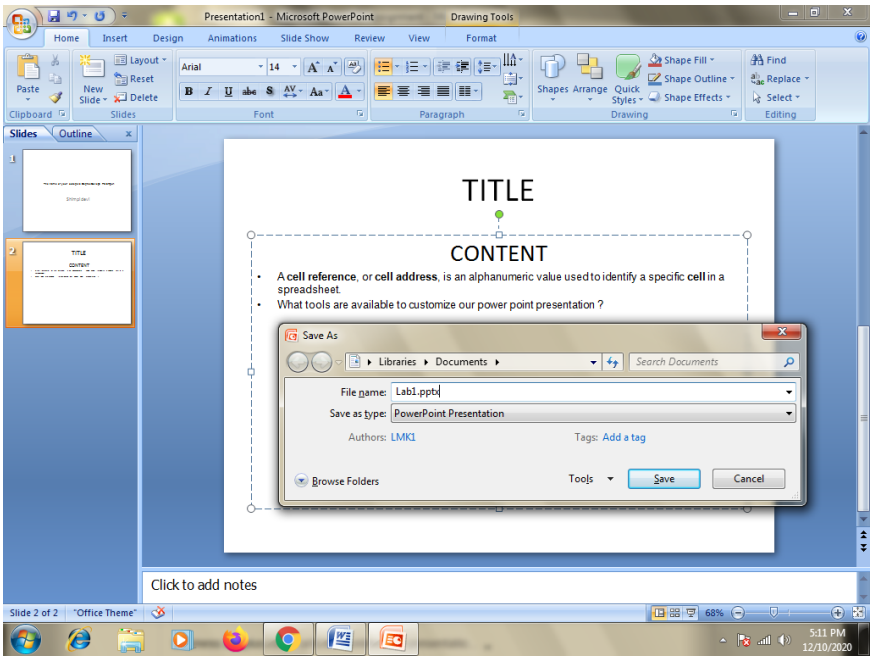
  Beginning ,custom ,current .
- Q14:b)Write the steps for the following action for creation of power point.

1. Start by opening a "Blank **presentation**" in **PowerPoint**. ...
2. Select the "Title **Slide**" option. ...
3. Type in your title and subtitle. ...
4. Select a background for the entire **presentation**

- Open a Blank presentation
- Save the presentation as Lab1. pptx .



- Add a title to the first slide the name of your college.
- Type your first name and last name in the subtitle section.
- Add a new slide which has a title and content.



Q15:Write steps for creation of asset of a power point slides that demonstrates the tools of power point .It should include the foliowing

- Title slide & bullet list

1. To insert a **bullet**, place the cursor at the end of a **bulleted** line, press Enter, and start typing.
2. To create a sub-**bullet**, place the cursor in front of the text, and press Tab.

- Inserting Excel Sheet

PowerPoint, on the **Insert** tab, click or tap Object. In the **Insert** Object dialog box, select Create from **file**. Click or tap Browse, and in the Browse box, find the **Excel workbook** with the data you want to **insert** and link to. Before you close the **Insert** Object box, select Link, and click OK.

- Clip art and text
- Click in the slide where you want to insert a clip art file.

- On the **Insert** tab, in the **pictures** group,
- In the **Insert Pictures** dialog box and press Enter.
- Locate the clip art you want to insert in your slide and double-click on it or click the item and select **Insert**.

- Slide show and effect

Insert a photo album to your presentation Go to “Insert” → “Photo Album” → “New Photo Album”

- Click on “File Disk”.
- Click “Insert”
- Click “Create”

Add transitions to your slideshow

Click the first slide, then hold Shift while clicking the last slide to select the whole range of slides.
Go to “Transitions” → click on the arrow to open up more choices.
Click on “Random”.

Set the slides to advance automatically

From the “Transitions” tab, check the “Advance Slide” “After” box.
Set it to 2 seconds (or whatever you want).

Set the slideshow to loop continuously

Go to “Slide Show” → “Set Up Show”.
Turn on “Loop continuously until ‘Esc’”, then click “OK”.

Q16: What is the difference between Machine language and High Level Language ?

- Machine language, or machine code, consists of binary code and is the only language that is directly understood by the computer. ... Both machine code and assembly languages are hardware specific. A high-level language is a programming language that uses English and mathematical symbols in its instructions.

  Q17:Discuss about difference data types of C programming Language.

Data type in C language

There are four basic data types in C programming language.

- Character (char)
- Integer (int)
- Floating Point (float)
- Double Floating Point (double)

Q18: Find the output of the following expressions

a) X=20/5 * 2+30-5
   Ans.33
b) Y=30+(40/10+6)+10
   Ans.50
c) Z=40*2/10-2+10
   Ans.16

Q19: Describe the syntax of the following statements

a) If – else statement
   Syntax. **If** the Boolean expression evaluates to true, **then** the **if** block will be executed, **otherwise**, the **else** block will be executed. C programming language assumes any non-zero and non-null values as true, and **if** it is either zero or null, **then** it is assumed as false value.
b) For loop
   A **for** loop is a repetition control structure that allows you to efficiently write a loop that needs to execute a specific number of times.
c) While loop
   A **while** loop in C programming repeatedly executes a target statement as long as a given condition is true.
d) Do while-loop

   Unlike **for** and **while** loops, which test the loop condition at the top of the loop, the **do...while** loop in C programming checks its condition at the bottom of the loop.

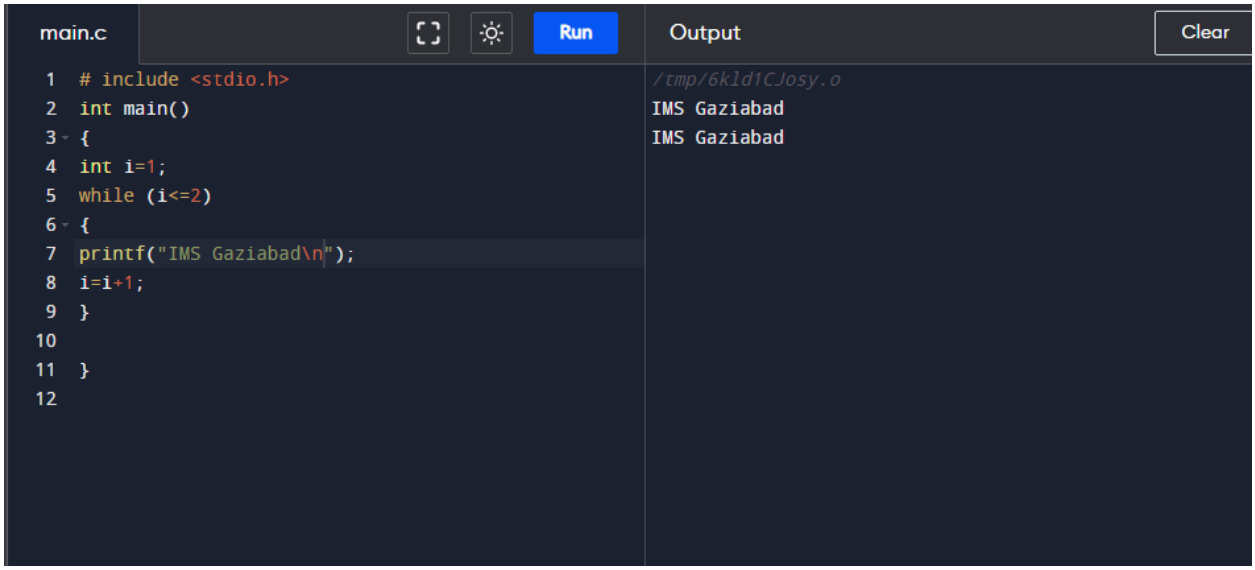
   A **do...while** loop is similar to a while loop, except the fact that it is guaranteed to execute at least one time.

   Q20:Find the output of the following program segments.

   a) # include <stdio.h >

```
 int main()
{
int i;
for(i=1;i<2;i++)
{
printf(“ IMS Ghaziabad\n”);
}
}
```

b)
```
 # include <stdio.h >
int main()
{
int i=1;
while (i<=2)
{
printf(“ IMS Ghaziabad\n”);
i=i+1;
}}
```



c) # include <stdio.h >

```
void main()
{
int a=10, b=100;
if (a>b)
{
printf(“ Largest number is %d\n”,a);
else

printf(“ Largest number is %d\n”,b);

}}
```

main.c

Run

Output

Clear

```c
#include <stdio.h>
void main()
{
int a=10, b=100;
if(a>b)
printf("Largest number is %d\n",a);
else
printf("Largest number is %d\n",b);
}
```

```
/tmp/6kld1CJosy.o
Largest number is 100
```