

CCA - 101 : Fundamentals of IT & Programming

Assignment - 1

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

A computer is a fast system that is organized to accept, store and process data and produce output results under the direction of a stored program of instructions.

Components of a computer system are the primary elements which make the functioning of an electronic devices smooth and faster.

1. Input devices :- Input units is used to feed any form of data to the computer, which can be stored in the memory unit for further processing.

Eg: Keyboard, mouse etc.

2. Central processing unit (CPU) :- CPU is the major component which interprets and

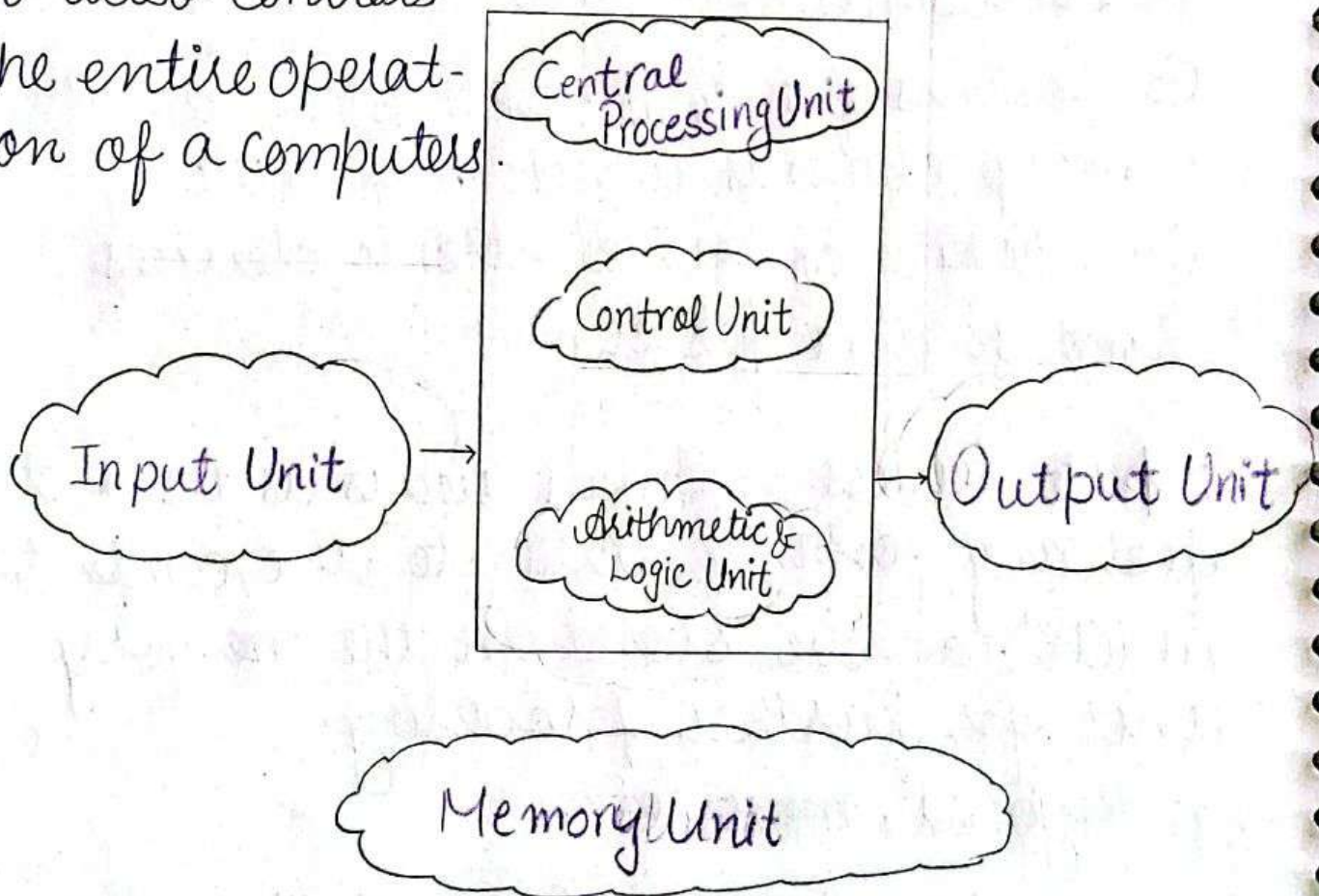
executes software instructions. The CPU has three components which are Control unit, Arithmetic and logic unit (ALU) and Memory unit.

(i) Arithmetic and Logic Unit:

The ALU is a part of the CPU where various computing functions are performed on data.

(ii) Control Unit: The control unit controls the flow of data between the CPU, memory and I/O devices.

It also controls the entire operation of a computer.



Output Unit: An Output Unit is any

hardware component that conveys information to users in an understandable form.

Example: Monitor, Printer etc.

Memory Unit: A memory unit is the collection of storage units or devices together. The memory unit stores the binary information in the form of bits.

Example: Hard disk

Q2: Discuss about the classification of Computers based on size and capacity.

Answer - Based on size and capacity, Computers are classified as follows:

- Super Computers
- Mainframe Computers
- Mini Computers
- Micro Computers

Q3. What is the meaning of Computers generation? How many Computers Generations are defined? What technologies were/all used?

Answer - In the field of electronics and

technology, generation is computer terminology. This term refers to the change that a computer goes through. Earlier, the term generation was used to differentiate between different hardware technologies.

The Generation of Computer Evolution is Generally Divided into 5 Categories.

- 1) First Generation (1940-1956)
(Evolving Hardware $\Rightarrow$ Vacuum-Tube Based)
- 2) Second Generation (1956-1963)
(Evolving Hardware $\Rightarrow$ Transistor Based)
- 3) Third Generation (1963-1971)
(Evolving Hardware $\Rightarrow$ Integrated-Circuit)
- 4) Fourth Generation (1971-Present)
(Evolving Hardware $\Rightarrow$ Microprocessor Based)
- 5) Fifth Generation (Present-Beyond)
(Evolving Hardware $\Rightarrow$ Artificial Intelligence)

Q4. Differentiate between Volatile & Non-Volatile memories.

Answer - Below are the difference between volatile memory and non-volatile memory:

S.No.	Volatile Memory	Non-Volatile Memory.
1.	It is the type of memory which data is lost as it is powered-off.	It is the type of memory in which data remains stored even if it is powered-off.
2.	memory are stored temporarily.	memory are stored permanent.
3.	It is faster than non-volatile Memory.	It is slower than Volatile memory.
4.	In Volatile memory, process can read and write.	In Non-Volatile memory process can only read.
5.	Volatile Memory is more costly per unit size.	Non-Volatile Memory is less costly per unit size.
6.	Example :- RAM (Random Access Memory)	Example :- ROM (Read Only Memory)

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

Answer - The main difference between System software and Application Software is that software is used for operating computer hardware is used according to user applications.

System Software	Application Software	Open - Source Software
• It is a type of software that designed to run a computer's hardware and application programs. <u>Eg</u> :- Windows, macOS, Android and iOS etc. • Features of System Software ⇒ It is written in a low-level language. ⇒ The size of the system software is small. ⇒ It is complex to understand. ⇒ It is present near hardware components.	• It is software created for a specific purpose used by end users. It can be called an application or simply an app. <u>Eg</u>. word processor, accounting application etc. • Features of Application Software ⇒ It is written in a high-level language. ⇒ It requires more storage space than system software. ⇒ It is easy to build in comparison to system software.	• It is a software in which the source code is also available along with the that software. <u>Eg</u>. Android, Linux, Apache Server, Ionic, MySQL, etc. • Features of Open - Source Software ⇒ The results are of quite high quality. ⇒ It is more secure. ⇒ Users can easily change the software acc. to requirement. ⇒ Long term use. ⇒ Transparency.

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

Answer ⇒ To create a new document:

- Click the Microsoft Office button / File tab.
- Select New. The New Document dialog box appears.
- Select Blank document. It will be highlighted by default.
- A new blank document appears in the Word Window.
- Now you can create document by inserting text.
- Finally save document.

To Save document using Save As Command:

- Click the Microsoft Office button / File tab.
- Select Save As - Word Document.
- Select the location on my Computer to save my file in PC.
- Enter a name ⇒ Pushinder Kaur for the document.
- Click the Save button.

b) Write steps regarding followings

- > To Change the font style
- Select the text you want to modify.

- Click on font style box on the Home tab. The font style drop-down menu appears.
- Move your cursor over the various font style.
- Left-click the font style you want to use.
- Then font style will change in the document.
- > To change the font size.
 - Click on font size box in the Font group on the Home tab. The font size drop-down menu appears.
 - Move cursor over the various font sizes.
 - Left-click on font size you want to use.
 - Then it will change font size in our document.
 - If we change the size increase and decrease so we use using increase font size and decrease font size commands.
 - Select the text you want to modify.
 - Click on inc/dec. font size commands in Font group on the Home tab.
 - Then font size will change (inc./dec.) in the document.
- > To change the font colour
 - Click the text you want to modify.

- Click on the font Colour box on the Home tab. The font color menu appears.
- Move your cursor over the various font colors.
- Left-click the font colour you want to use.
- Then font colour will change in the document.
- To highlight (in yellow) the line that reads "need to get IMS's address".
- Select the text
- Click on the Text Highlight colour in font group on the Home tab.
- Yellow colour will appear
- Move your cursor over the yellow colors.
- Click on colour to you use.
- Then text highlight colour will change in the document.

After this process press Ctrl + S key on keyboard.

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.

Answer - MS Word

MS Word is a widely used commercial word

processor developed by Microsoft.

MS word is application software, which is capable of

- Creating
- editing
- saving, and
- printing and type of document

Answer -

- Click the Start icon.
- Then point to All Programs.
- Then click Microsoft Office and
- then click Microsoft Word.

To create New document

- * Click Microsoft office button
- * Select New. The New document dialog box appears.
- * Select Blank document. It will be highlighted by default.
- * A new blank document appears in the Word window.
- * Now can create document by inserting text
- * Finally save document
- * Select Save As - Word Document
- * Select the location where you want to save the document
- * Enter a name "ms-word" for the document

* Click the Save button.

Q8. Create a file in MS-Word for the following document and save it with file name 'equation'. Describe all steps involved in it.

Equations

$$X_2 + Y_5 = 30$$

$$Z^3 + Q^4 = 50$$

$$A_2 + B^8 = X_2 + Y^8$$

Answer - Step 1:- Click the Start icon.

Step 2:- Then point to All program.

Step 3:- Then click Microsoft Office and

Step 4:- then click Microsoft Word

Step 5:- Click the Microsoft Office button/
File tab.

Step 6:- Select New. The New Document dialog box appears.

Step 7:- Select Blank document.

Step 8:- Now we create a document and write some eq^{ns}.

$$X_2 + Y_5 = 30$$

$$Z^3 + Q^4 = 50$$

$$A_2 + B^8 = X_2 + Y^8$$

• We write this equation with the help of Superscript Command on the Home tab.

- After create document by inserting text
- Finally save document.

Step 9:- Select Save As - Word Document

Step 10:- Select the location where we want to save the document.

Step 11:- Enter a name 'equations' for the document.

Step 12:- Click the Save button.

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name 'text-to-table'. Describe all steps involved in it.

Select the text you want to convert.

Select the Insert tab.

Click on Table Command. A dialog box appears

Click on Convert Text to Table, a new dialog box appears here set number of columns.

Click on OK Finally Selected text convert in a table



Select the text you want to convert.	Select the Insert tab.
Click on Table command. A dialog box appears.	Click on Convert Text to Table, a new dialog box
here set number of columns.	Click OK Finally Selected text convert into a table.

Answer - To Convert existing text to a table:-

- Select the text you want to convert.
- Select the **Insert** tab.
- Click on **Table** command. A dialog box appears.
- Click on **Convert Text to Table**, a new dialog box appears.
- here set number of Columns.
- Click on **OK**.
- Finally selected text convert in a table.
- Then press **Ctrl + S** Key on keyboard for saving document and name "**text-to-table**".

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

Answer- Following are the basic steps :-

Step1:- Open a blank Word document.

Step2:- In the top ribbon, press insert.

Step3:- Click on the Table button

Step4:- Either use the diagram to select the number of Columns and rows you need.

Step5:- The blank table will now appear on the page.

Step 6 :- Click on OK

Step7:- Finally table is insert.

12. Calculate the following things of a range (C2:C11) of data in the worksheet created in question no. 10

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

C2 = 60, C3 = 70, C4 = 80, C5 = 90, C6 = 40

C7 = 50, C8 = 44, C9 = 77, C10 = 88, C11 = 55

Sum of marks = $60 + 70 + 80 + 90 + 40 + 50 + 77 + 44 + 88 + 55 = 654$

- average of the marks in a range of cells (C2:C11)

Answer - 604.2

- highest marks in a range of cells (C2:C11)

Answer - 90

- minimum marks in a range of cells (C2:C11)

Answer - 44

13. a) Describe various steps involved in the following.

- To modify column width of a worksheet
- To modify the row height of the worksheet
- To delete rows and columns of a worksheet

b) Describe following terms in the worksheet

- Absolute reference and relative reference in formula

> Cell address

Answer :- a) To modify column width of a worksheet:

Step 1: Select a column or a range of columns.

Step 2: - On the Home tab, select Format > Column Width (or Column Height)

Step 3: - Type the column width and select OK.

b) To modify Row height of a worksheet:

Step 1: - Select a row and a range of rows.

Step 2: - On Home tab, select Format > Row Height

Step 3: - Type the row width and select OK.

c) To delete row or Column:

Step 1. Select the row or Column

Step 2. Right-click your mouse, and a menu appears.

Step 3. Select Delete Columns or Delete Rows.

b) Absolute References and Relative References.

Answer :-

Absolute Reference :- It is the cell reference in which the row and column

are made constant by adding the dollar (\$) sign before column name and row number.

Relative Reference :- It is the default cell reference in Excel. It is simply the combination of column name and row number without any dollar (\$) sign.

Cell address :- Cell reference or cell address is a combination of a column letter and a row number that identifies a cell on a worksheet.

Q14 a) What tools are available to customize our Power Point presentation?

Answer:- Looking for the best presentation tools to help you get your presentation to the next level. Which are given below :-

- | | |
|-------------------------|-------------------------|
| 1) Templates and Themes | 8) Animation |
| 2) Slide Layouts | 9) Maps and Tables |
| 3) Fonts | 10) Flow and Icon Chart |
| 4) Colour Themes | 11) Transition |
| 5) Shapes | 12) Audio and Video. |
| 6) Icons | |
| 7) Charts and Graph | |

14(b) Write the steps for following action for creating of power point 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

Answer - • To open a Blank presentation:

Step 1: Select the File tab to go to Backstage View

Step 2: Select Open. Clicking Open.

Step 3:- In the left side, select New.

Step 4:- Select an option.

Step 5:- The Open dialog box will appear.

- To save a presentation

Step 1: Locate and select the Save

Command on the Quick Access Toolbar

Step 2: If you're saving the file for first time, the Save As pane will appear in backstage view.

Step 3: Now then need to choose where to save ~~and~~ ^{the} file and give it a Lab1.pptx.

- Add title to 1st slide: the name of Your Collage.

Step 1: Now you Please click on Title

Step 2: Add title Name of Collage or School
e.g. add Meritorious School Ghabdan,
Sangrur

Step 3:- If necessary, press [Return] or [Enter] to move to a new line.

Step 4:- Click anywhere on the slide outline of the placeholder to deselect it.

- Add your 1st Name and last Name in the subtitle section.

Step 1:- Please click on Subtitle Section

Step 2:- Type the Name - Pushwindel Kaur and last Name - Kaur Brai

Step 3:- If necessary, press [Return] or [Enter] to move to a new line.

Step 4:- Click anywhere on the slide outline to placeholder to deselect it.

- Add a new slide which has a title and content.

Step 1:- Select the slide whose layout you will change at can have a title

Step 2:- Click Home > layout

Step 3:- Select title slide for a standalone title page or select title

Step 4:- Select the Click to Add title for box

Q15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things

- Title slide & bullet list
- Inserting Excel Sheet
- Clip art and Text
- Slide show effects

Answer - • Title Slide & bullet list

Step 1:- Select the text you want to format as a list.

Step 2:- Click the Bullets or Numbering commands on the Home tab.

Step 3:- Left - Click the bullet or numbering style you want to use. It will appear in document.

Step 4:- Press Enter key to add an item to the list

- Inserting Excel Sheet

Step 1:- In PowerPoint, select the Insert tab & click the Insert tab.

Step 2:- Click the Object command in the Text group.

Step 3:- A dialog box will appear

Step 4:- Locate and select the desired Excel file then click Insert.

- Clip Art And text

Step 1:- Open PowerPoint

Step 2:- Go to Insert > online Pictures.

Step 3:- Select the Clip Art

Step 4:- Insert the Clip Art

Step 5:- Edit the image

Step 6:- Then Type in the text

Step 7:- Select a blank area on the drawing page.

- Slide Show effect:-

Step 1:- Select the slide to which you want to apply the effect.

Step 2:- Select the Animation tab.

Step 3:- In transition to this slide group you will see the transition effects

Step 4:- Click the drop-down arrow to see menu of transition effects

Step 5:- Select the desired transition effects.

Part - 2

Q16. What is the difference between Machine Language and High level language?

Answer - Following are the difference b/w M.L. and High level lang.

Machine Language	High-level language
• It is a machine friendly language. • It is high memory efficient. • It is tough to understand. • Debugging is Complex comparatively. • It is Complex to maintain comparatively. • It is non-portable. • It is machine-dependent.	• It is programmer friendly language. • It is less memory efficient. • It is easy to understand. • Debugging is easy. • It is simple to maintain • It is portable. • It can run on any platform.

Q17 Discuss about different data types of C programming language:

Answer - Following are the examples of some very common data types used in C:

- Char : The most basic data type in C. It stores a single character and requires a single byte of memory in almost all compilers.
- int : As the name suggests, an int variable is used to store an integer.
- float : It is used to store decimal numbers (numbers with floating point value).
- double : It is used to store decimal numbers (numbers with floating point value but its range of values is high in comparison to float.)

Q18. Find the output of the following expressions

- a) $X = 20/5 * 2 + 30 - 5 = 4 \times 2 + 30 - 5 = 8 + 30 - 5 = 33$
- b) $Y = 30 - (40/10 + 6) + 10 = 30 - (4 + 6) + 10 = 30 - 10 + 10 = 30$ Ans.
- c) $Z = 40 * 2/10 - 2 + 10 = 40 * 0.2 - 2 + 10 = 8 - 2 + 10 = 16$ Ans.

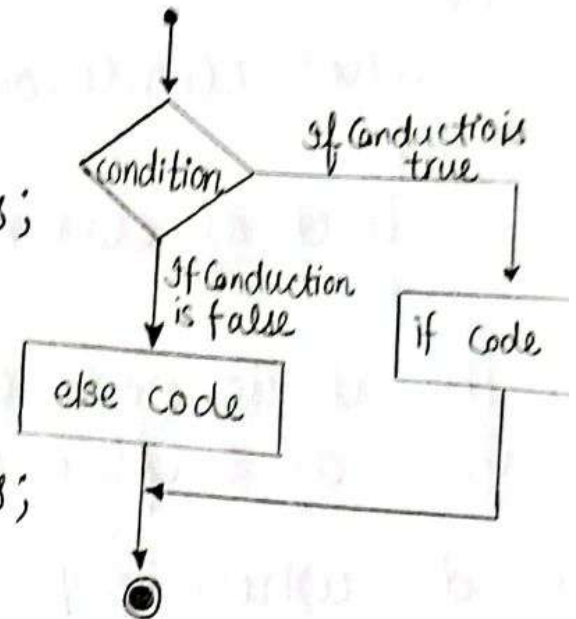
Q19. Describe the syntax of the following statements

a) If - else statement

if statement can be followed by an optional else block of statements, which executes when the Boolean expression is false.

Syntax

```
if (expression)
{
    true Block of statements;
}
else
{
    else Block of statements;
}
```



b) for loop

for loop is similar to while. Basic syntax of for loop is as follows:

```
for (expression 1; expression 2; expression 3)
{
    Block of statements;
}
```

In the above syntax:

- expression 1 - Initializes variables.
- expression 2 - Conditional expression, as long as this condition is true, loop will keep executing.

Expression 3 - It is the modifier which will increase or decrease the value of the variable.

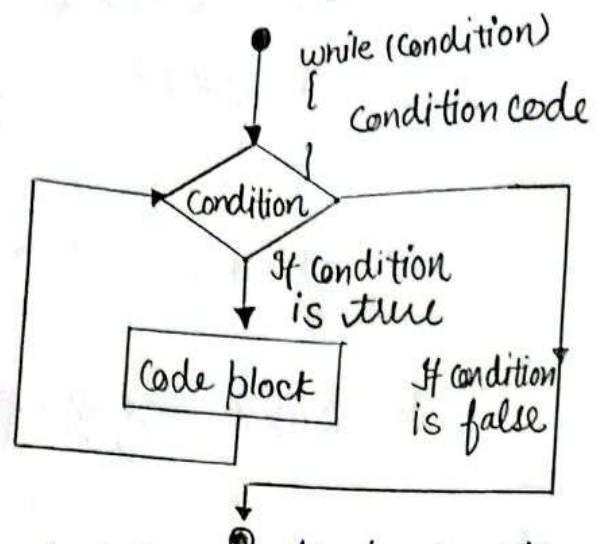
c) While loop

• Basic syntax of while loop is as follows.

```
while (condition)
    Single Statement;
```

OR

```
while (condition)
{
    block of statements;
}
```



The above code can be represented in the form of a flow diagram as shown above

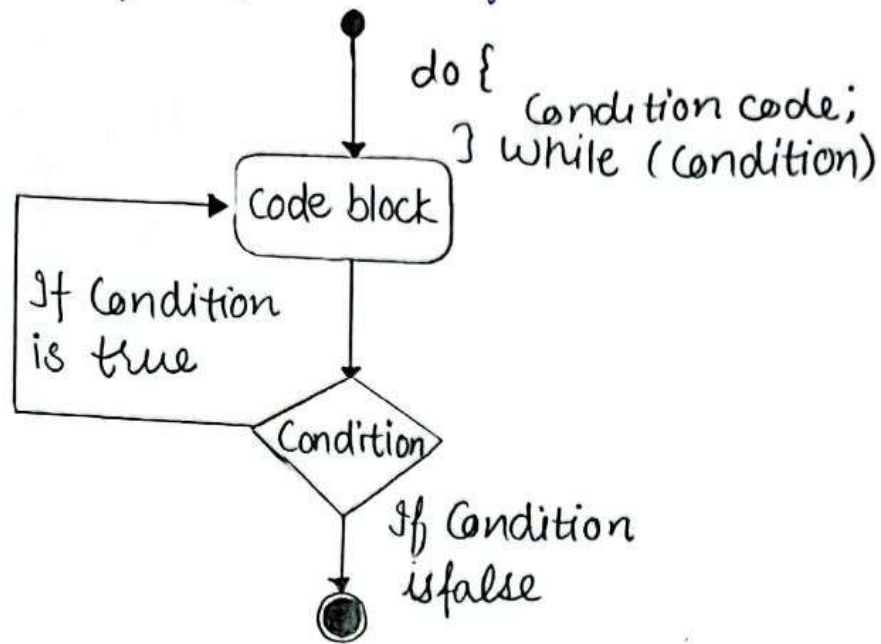
d) do.. while loop

do...while is just like a while loop except that the test condition is checked at the end loop rather than the start. This has the effect that the body of the loop are always executed at least once.

• Basic syntax of do.. while loop is as follows:-

```
do
{
    Single Statement
    or
    Block of statement
}while (condition);
```

This code can be represented in the form of a flow diagram as shown below.



main.c



Save

Run

Output

```
1 #include <stdio.h>
2 int main()
3 {
4     int i = 1;
5     while ( i <= 2 )
6     {
7         printf( "IMS Ghaziabad\n");
8         i = i + 1;
9     }
10 }
```

/tmp/sPT80v5dk0.o

IMS Ghaziabad

IMS Ghaziabad

=== Code Execution Successful ===

main.c



Save

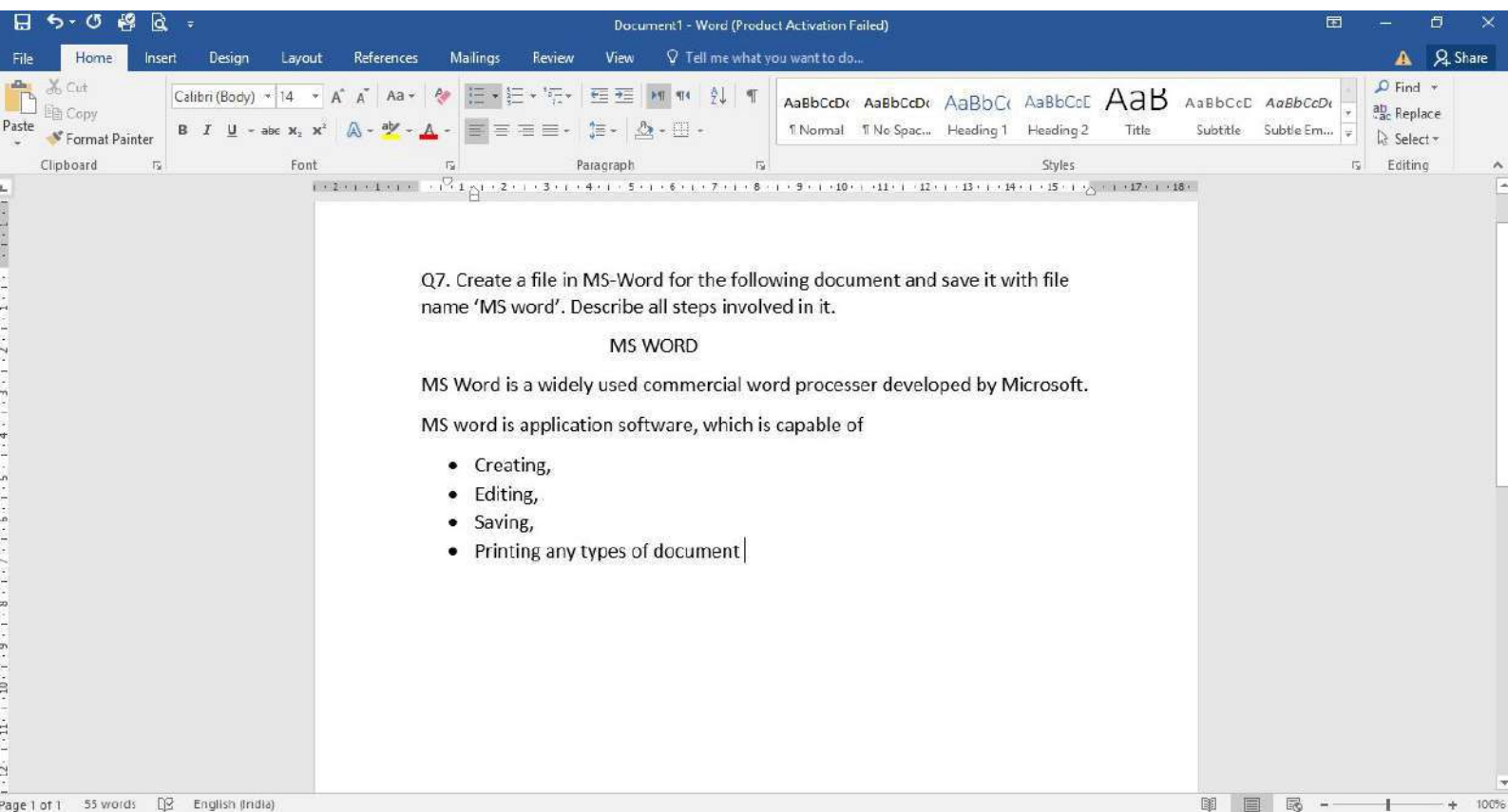
Run

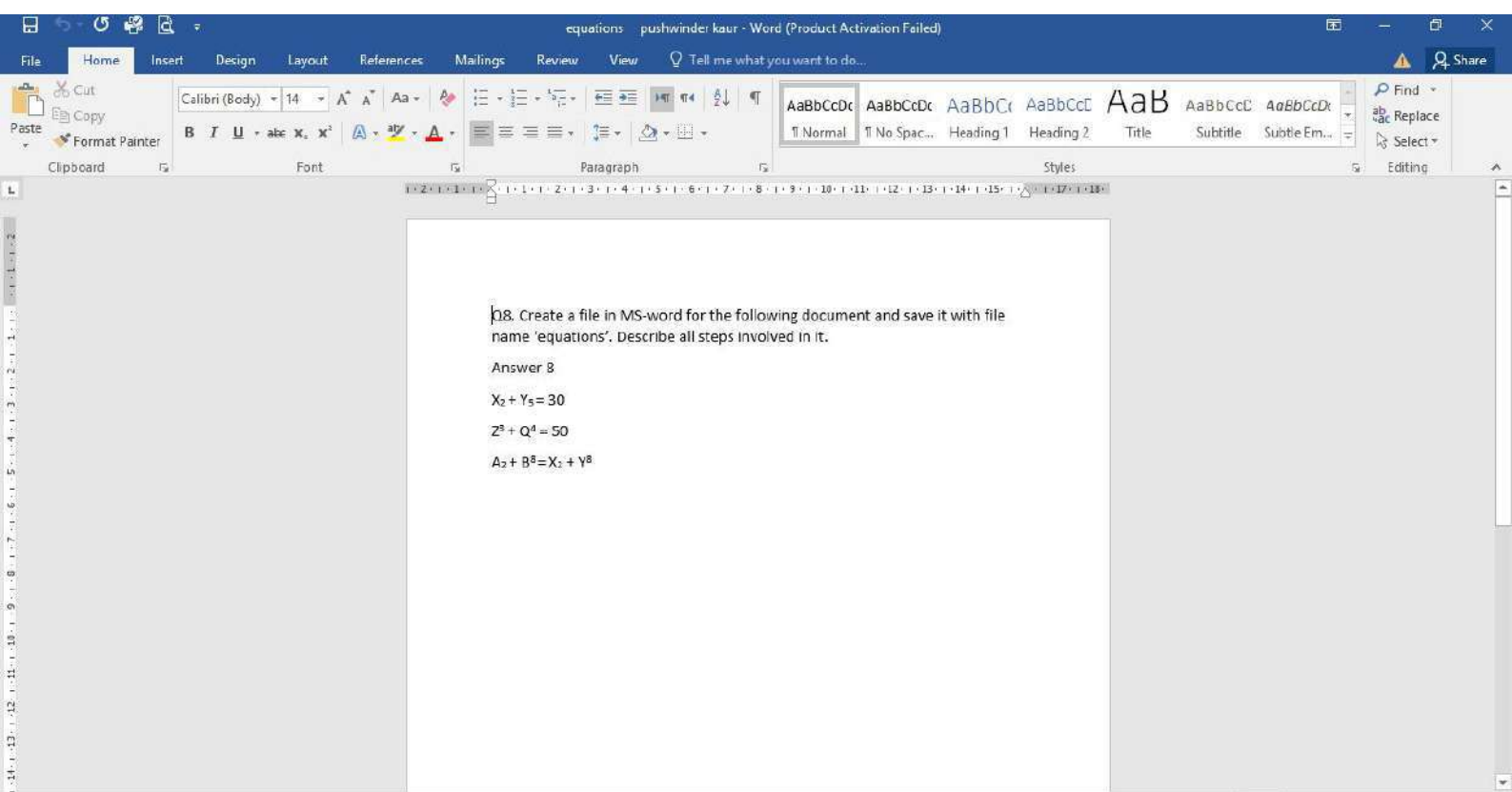
Output

```
1 #include <stdio.h>
2 int main()
3 {
4     int i;
5     for (i=1; i<2; i++)
6     {
7         printf( "IMS Ghaziabad\n");
8     }
9 }
```

/tmp/ZkkC8J5fGx.o
IMS Ghaziabad

=== Code Execution Successful ===





text_to_table pushwinder kaur - Word (Product Activation Failed)

File Home Insert Design Layout References Mailings Review View Tell me what you want to do... Share

Clipboard Font Paragraph Styles Editing

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name 'text to table'. Describe all steps involved in it.

Answer

Select the text you want to convert.

Click on **Table** command. A dialog box appears.

Here set number of columns.

Select the **Insert** tab.

Click on Convert Text to Table, a new dialog box appears.

Click on OK. Finally selected text convert in a table

↓

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