JOYPURHAT GIRLS' CADET COLLEGE

SSC- 2026

Lab Instruction Note

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Lab Work No: 01

Name of the Lab Work: Installation of a Software.

Objectives

- Understand the process of installing software on a computer system.
- Learn how to deploy software using graphical user interfaces (GUIs).
- Follow step-by-step installation procedures.
- Gain hands-on experience in handling software setup files.
- Learn basic troubleshooting steps for installation issues.

Theory

Software installation is the process of making a computer program or application available and functional on a computing device. It involves several steps such as downloading or obtaining the software, running the installer, configuring necessary options, and completing the setup. Proper installation ensures that the software is correctly configured, integrated with the operating system, and ready to be used by the user.

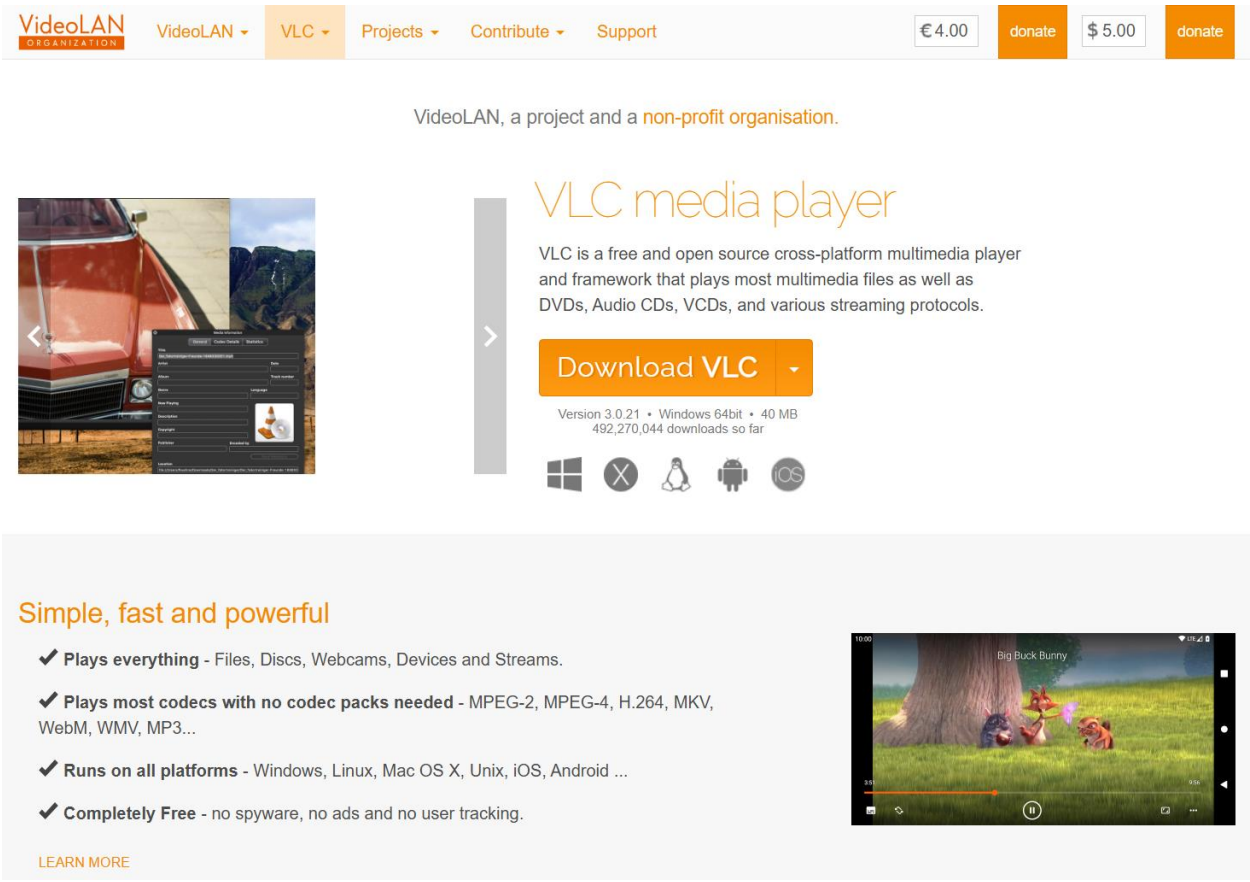
Requirements

Hardware: Computer with a minimum of 2GB RAM and 200MB free diskspace.
Software: VLC Media Player installer

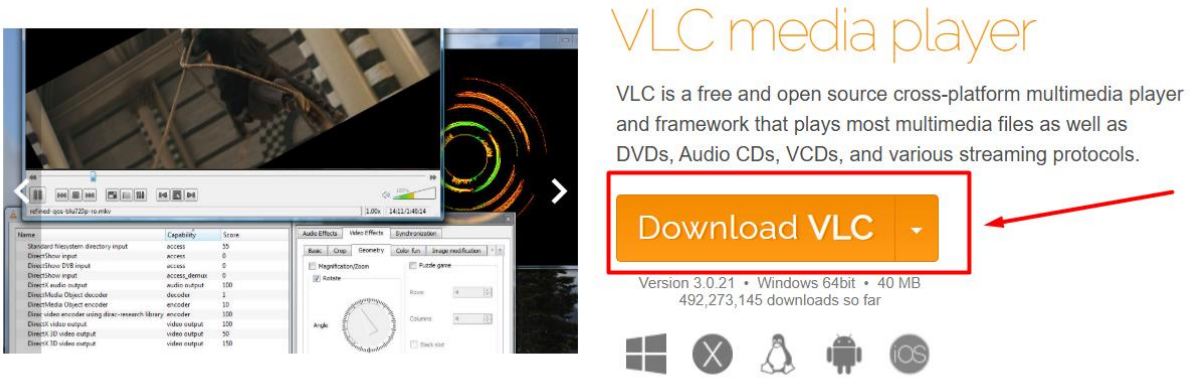
Operating system: Windows

Work Procedure

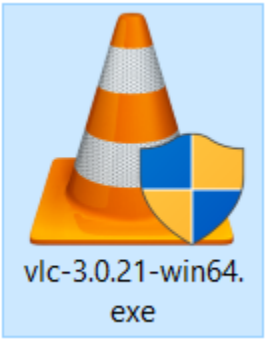
1. Open a web browser (e.g., Google Chrome, Microsoft Edge).
2. Go to the official VLC Media Player website: https://www.videolan.org.



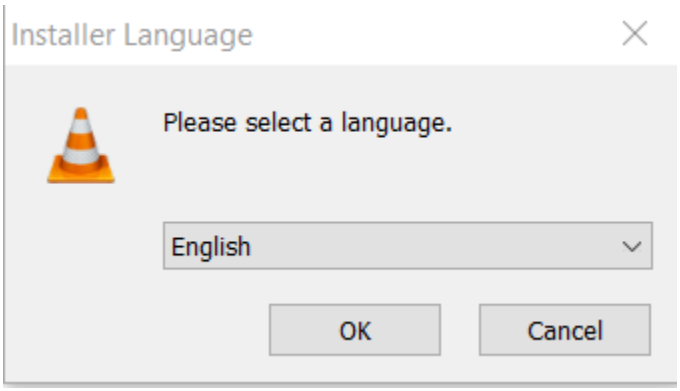
3. Click on the **Download VLC** button.



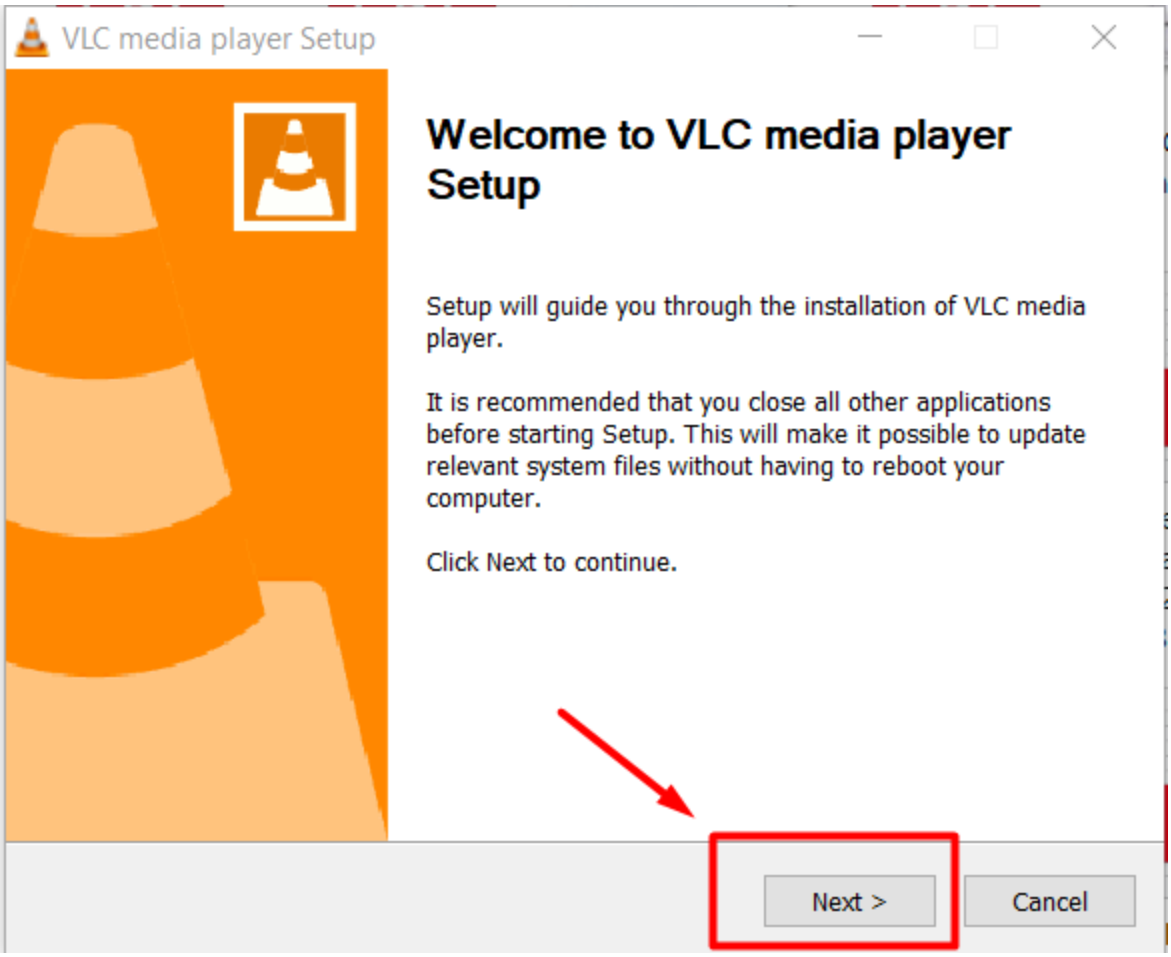
4. Once the download is complete, go to the **Downloads** folder.



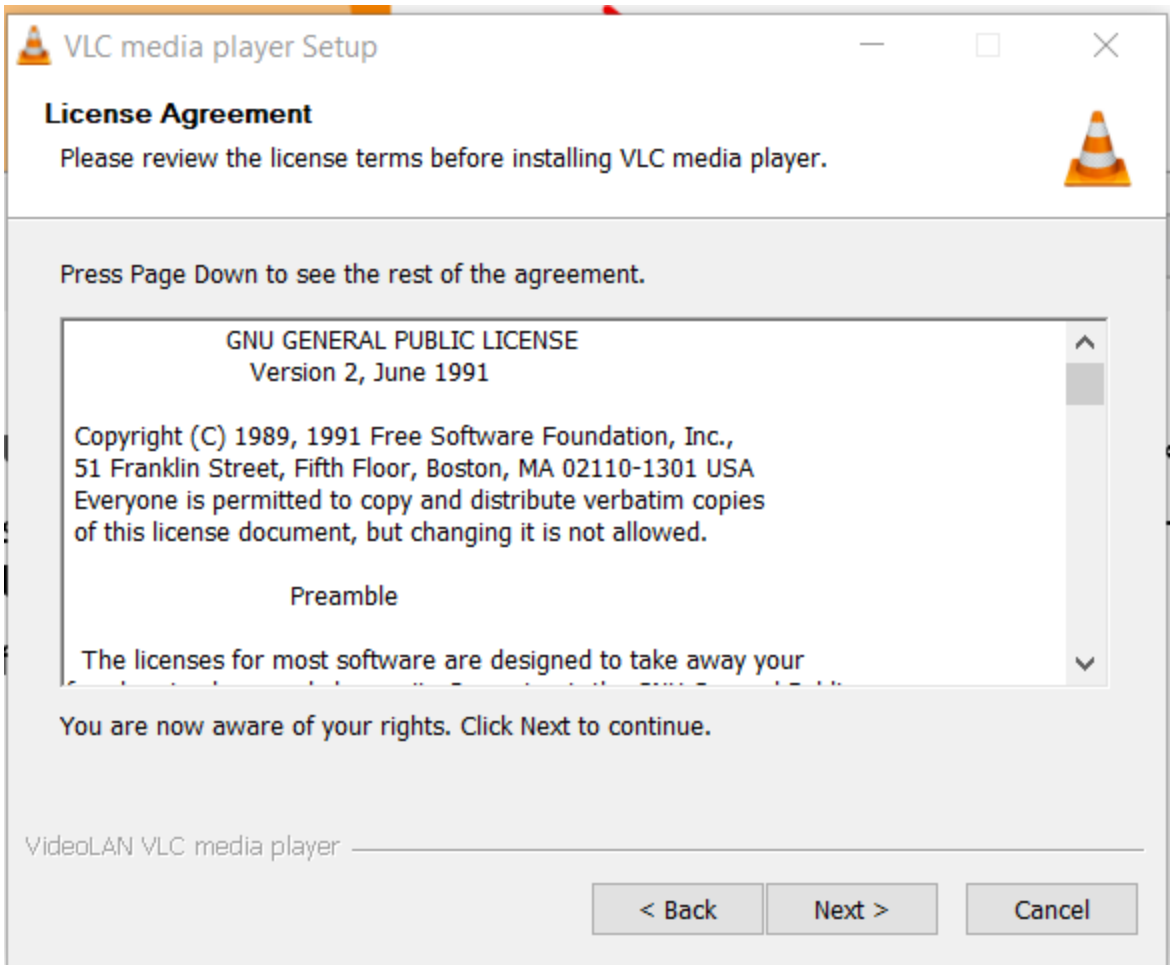
5. Double-click on the downloaded **VLC setup file (.exe)**.
6. In the setup window, select the preferred **language** and click **OK**.



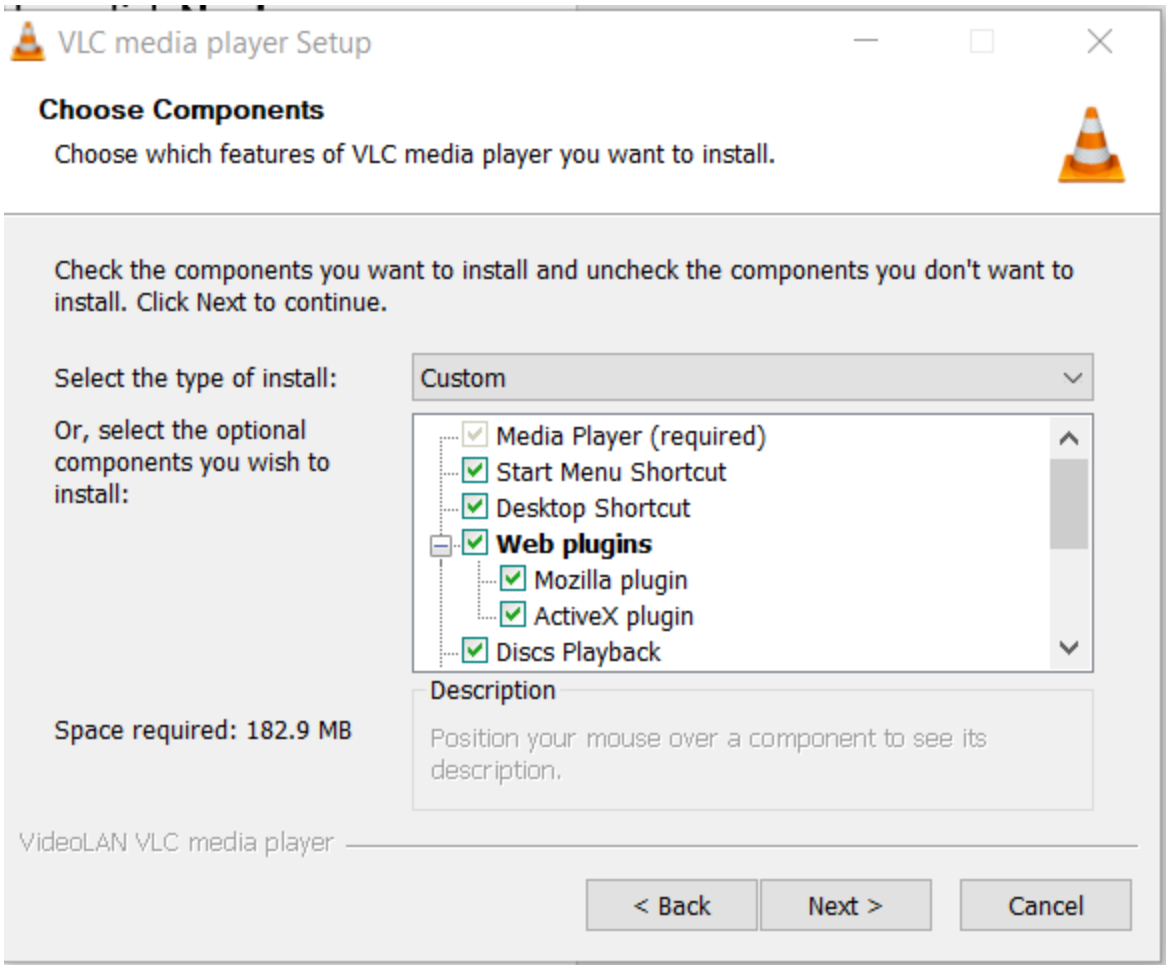
7. Click **Next** to continue through the installation wizard.



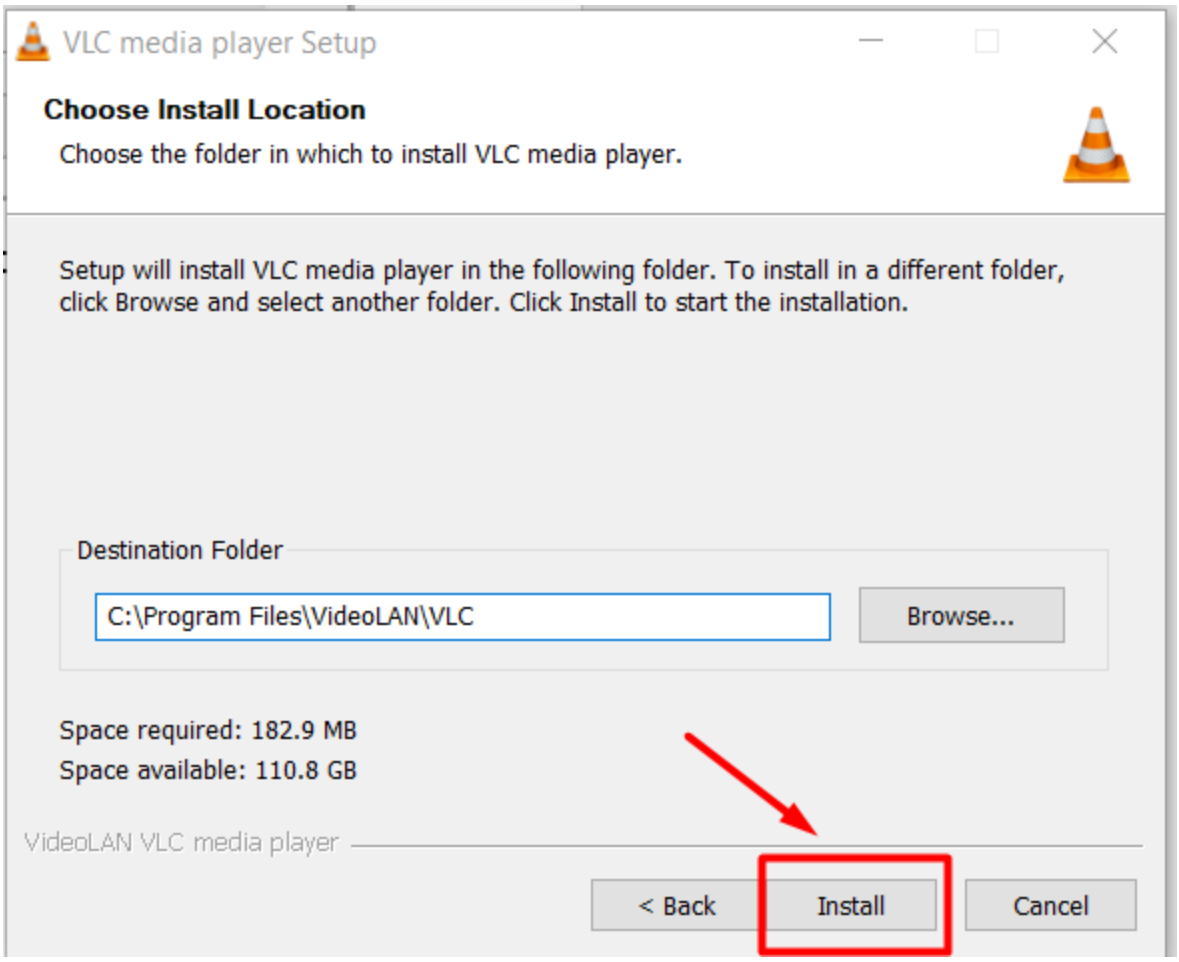
8. Read and accept the license agreement, then click **Next**.



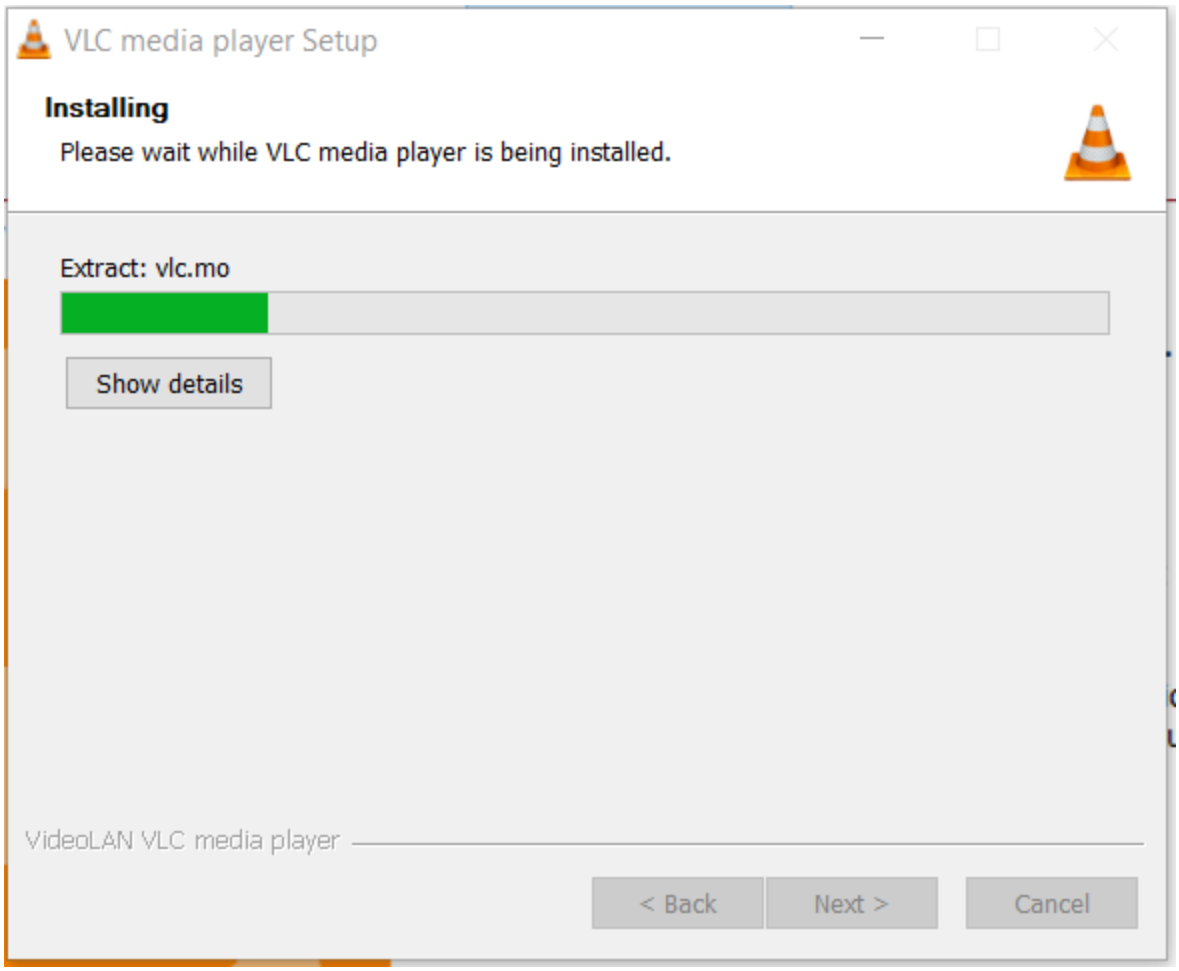
9. Select the components (default settings are recommended), then click **Next**.



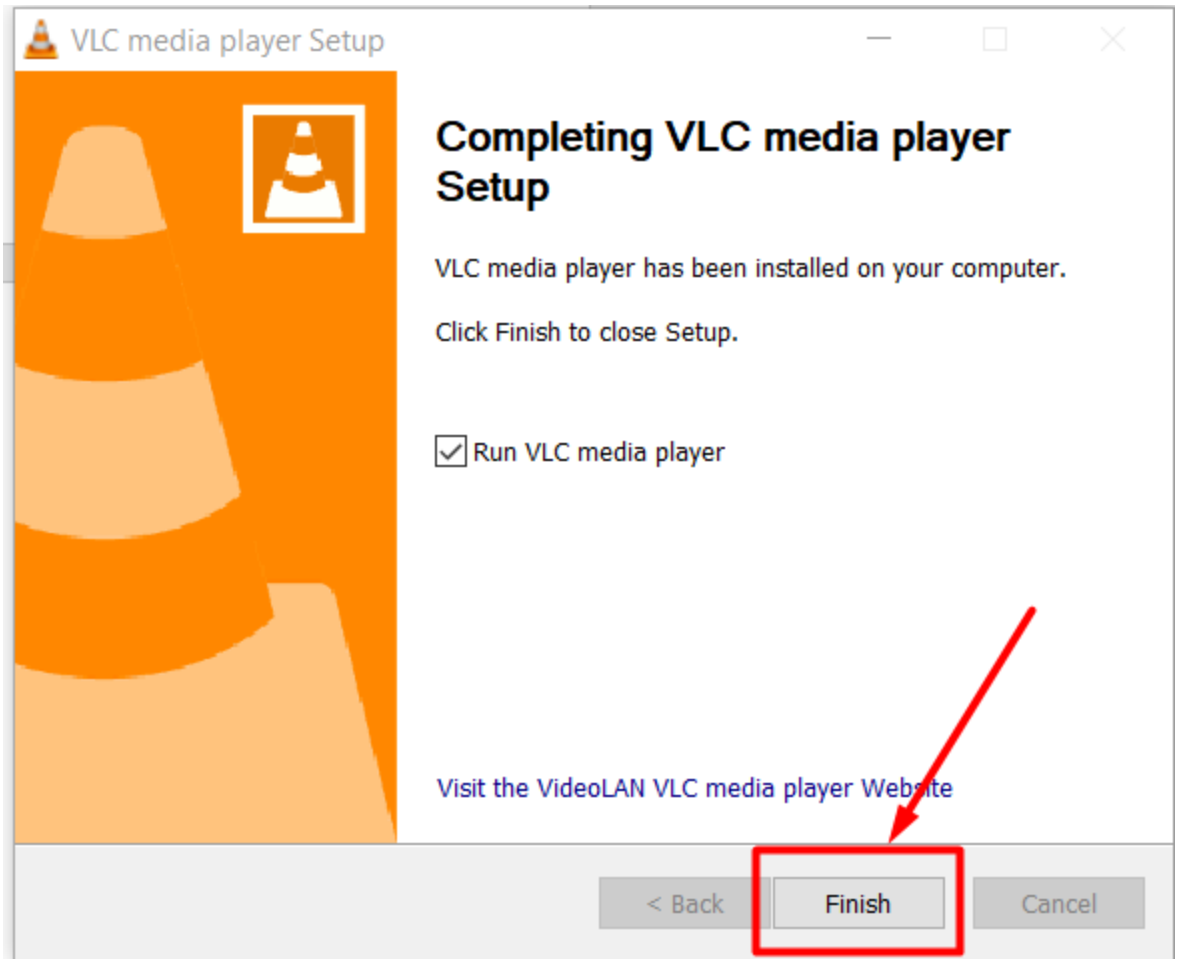
10. Choose the installation folder (default location is recommended), then click **Install**.



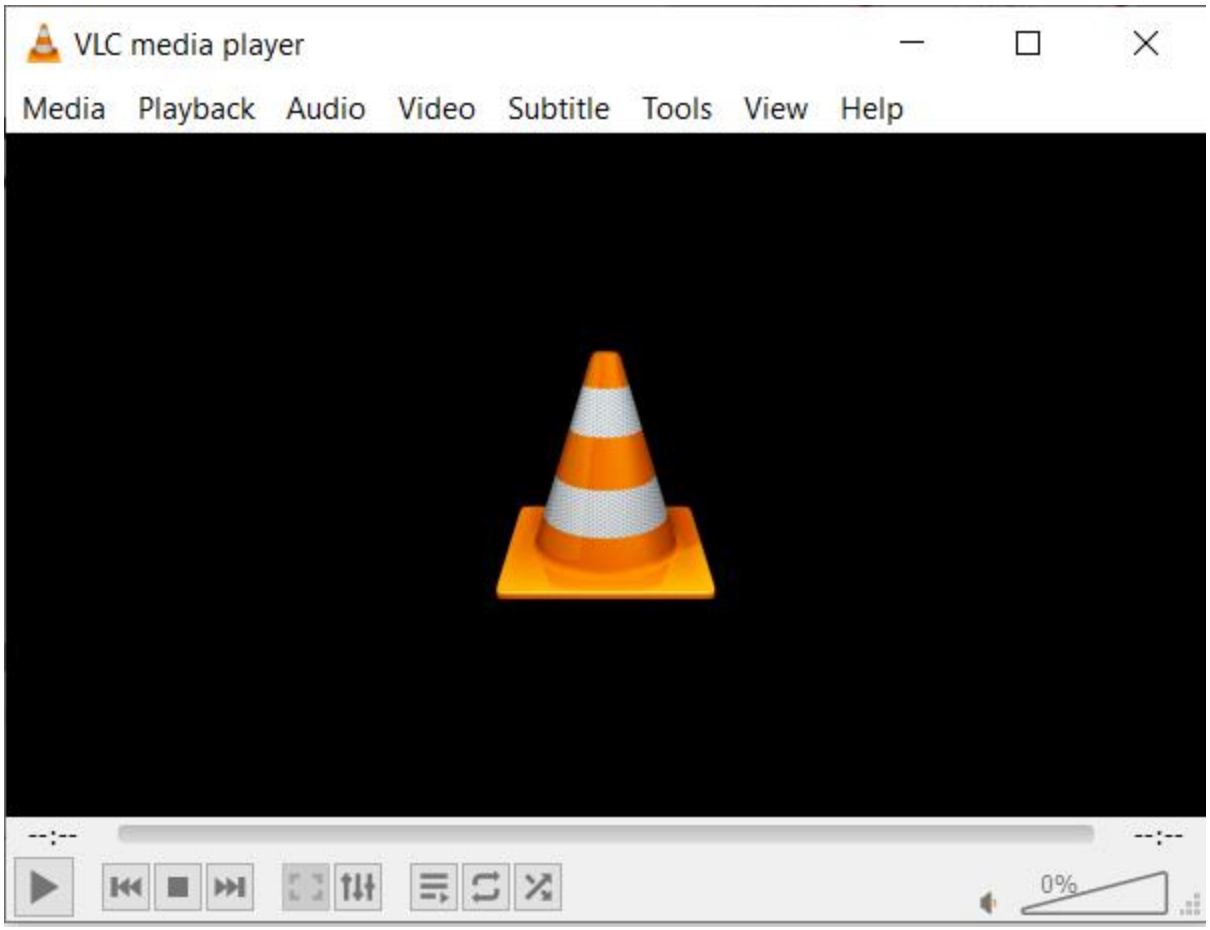
11. Wait for the installation process to complete.



12. After installation, click **Finish** to exit the setup wizard.



13. Open VLC Media Player from the **Start Menu** or desktop shortcut to confirm successful installation.



Result

VLC Media Player is successfully installed and ready to use on the computer.

Discussion

In this lab, I have learned how to install software on a computer. The step-by-step installation of VLC Media Player has shown me how to download, run setup files, and configure software. This method can be applied to install almost any other software sequentially on a computer.

Lab Work No: 02

Name of the Lab Work: Uninstallation of a Software

Objectives

- Understand the process of uninstalling software from a computer system.
- Learn how to use the operating system's control panel or settings for uninstallation.
- Identify cases where uninstallation is required (e.g., freeing space, fixing issues, upgrading software).
- Gain hands-on experience in following step-by-step uninstallation procedures.
- Learn basic troubleshooting steps when a program does not uninstall properly.

Theory

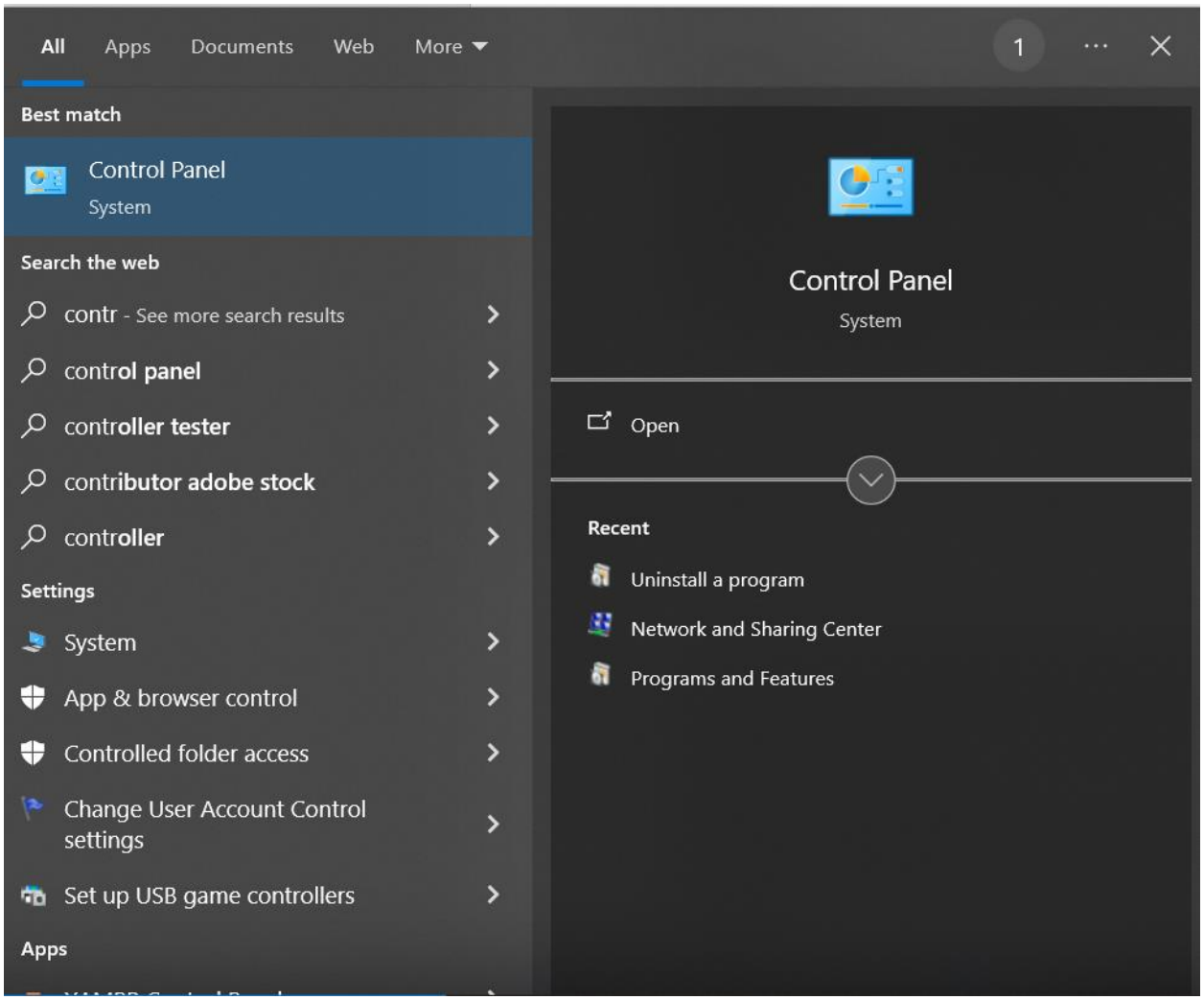
Uninstallation is the process of removing a software program from a computer system. It deletes the program files and configurations so that the application can no longer be used. Proper uninstallation helps free storage space, improve system performance, and prevent conflicts with other applications. The process can be carried out through system tools like the Control Panel (Windows) or Settings, or by using the program's own uninstaller.

Requirements

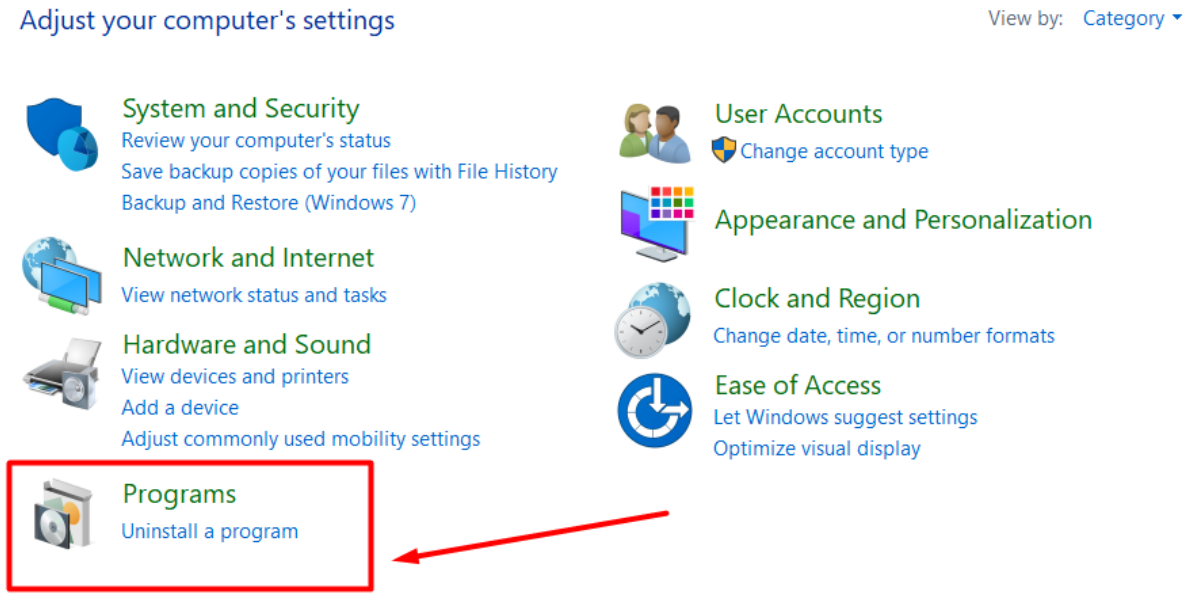
Hardware: Computer with operating system installed
Software: VLC Media Player (already installed)

Work Procedure

1. Go to the **Start Menu** and click on **Control Panel** (for Windows 10/11, go to **Settings** → **Apps** → **Installed Apps**).

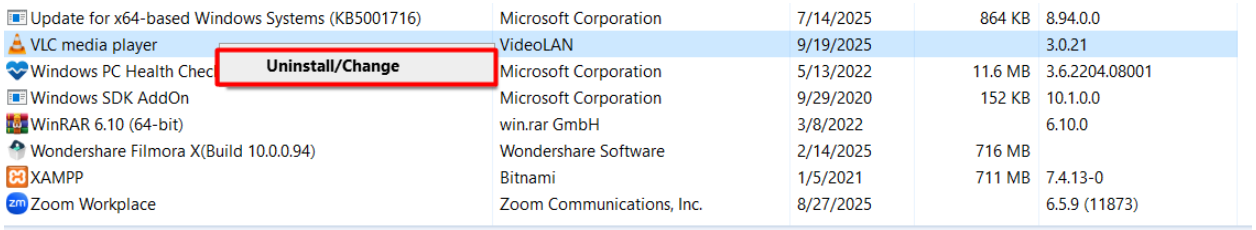


2. In the Control Panel, click on **Programs** and then select **Programs and Features**.

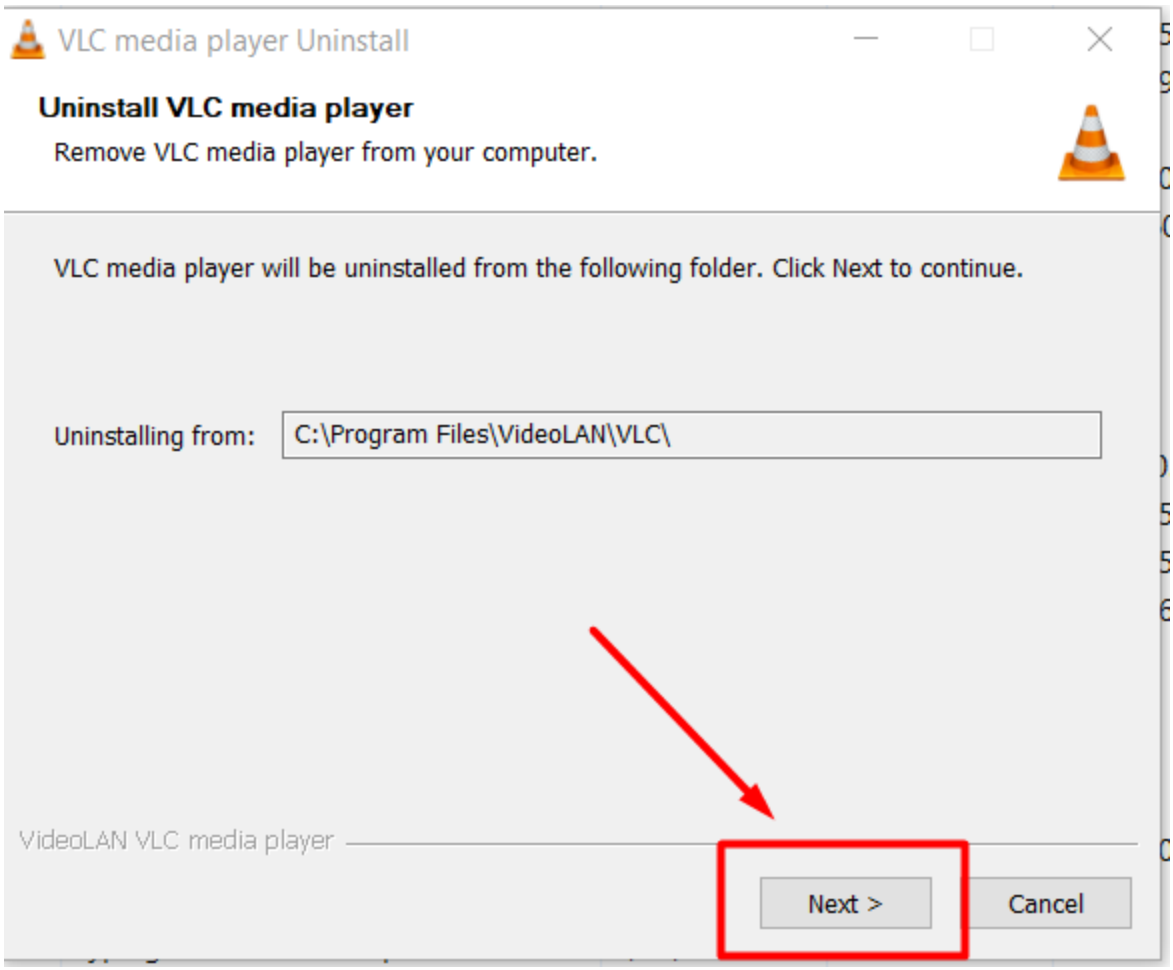


3. Scroll through the list of installed programs and locate **VLC Media Player**.

4. Select **VLC Media Player** and click on the **Uninstall** button.



5. A setup window will appear asking for confirmation. Click **Yes** to proceed.
6. The VLC uninstaller will start. Follow the prompts and click **Next** or **Uninstall** as required.



7. Wait for the uninstallation process to complete.
8. Once done, click **Finish** to close the uninstallation wizard.
9. Verify that VLC Media Player is no longer available in the **Start Menu** or on the desktop.

Result

VLC Media Player is successfully uninstalled and removed from the computer.

Discussion

In this lab, I have learned how to uninstall software from a computer system. The step-by-step removal of VLC Media Player has shown me how to use system tools like Control Panel/Settings to remove applications. This process can be applied to uninstall any other software when it is no longer required.

Lab Work No: 03

Name of the Lab Work: Microsoft Word: Make a List using Bullets and Numbering

Objectives

- Learn how to create and format lists in Microsoft Word.
- Understand the difference between **bulleted lists** and **numbered lists**.
- Gain hands-on experience in formatting text for better organization and readability.
- Develop skills to use Word's toolbar and formatting options effectively.
- Apply list-making in real-life scenarios (e.g., to-do lists, steps, outlines).

Theory

Lists are a common way to organize information in documents.

- **Bulleted lists** are used when the order of items does not matter. Each item is marked with symbols such as dots, circles, or checkmarks.
- **Numbered lists** are used when the order of items is important, such as steps in a procedure. They can use numbers (1, 2, 3), letters (a, b, c), or Roman numerals (i, ii, iii).

Microsoft Word provides built-in options to create both types of lists easily using the **Home tab → Paragraph group → Bullets/Numbering tools**.

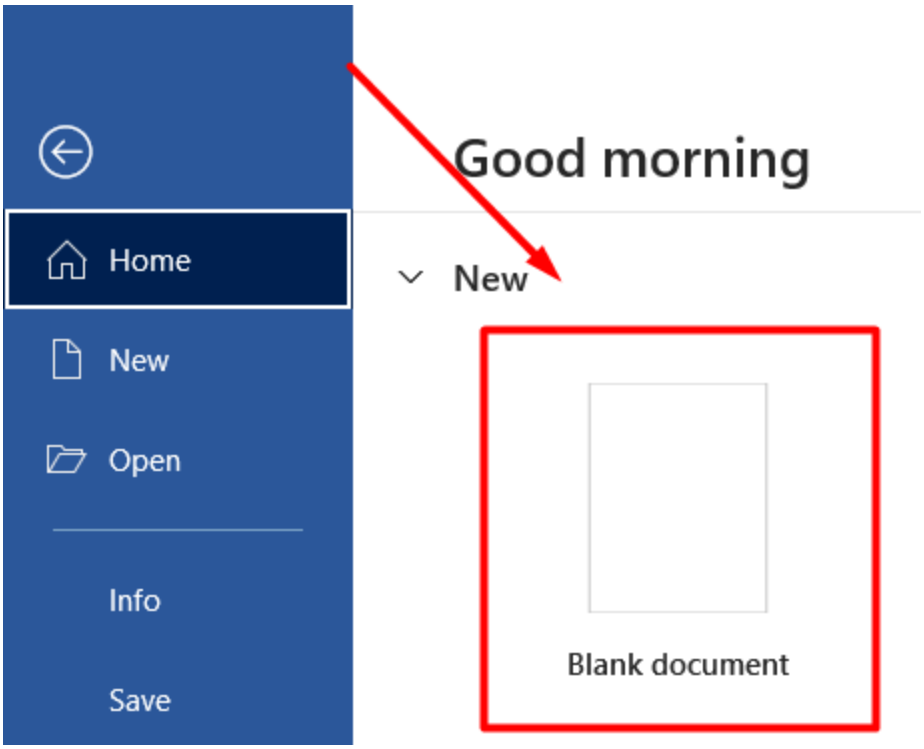
Requirements

Hardware: Computer with a minimum of 2GB RAM and 500MB free disk space.
Software:

- Microsoft Word (any recent version, e.g., Microsoft Office 2007,2016, 2019, 2021, or Microsoft 365)
- Operating system: Windows or macOS.

Work Procedure

1. Switch on the computer and open **Microsoft Word**.
2. Create a **new blank document**.



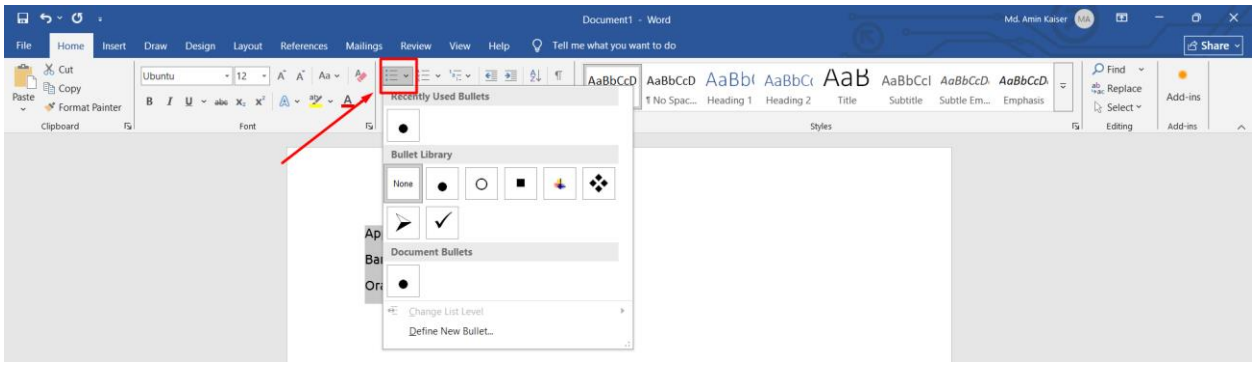
3. Type a few items, for example:

   Apple

   Banana

   Orange

4. Select the text you typed.
5. Go to the **Home tab** → **Paragraph group**.
6. Click on the **Bullets icon (•)** to make it a bulleted list.



- Apple
- Banana
- Orange

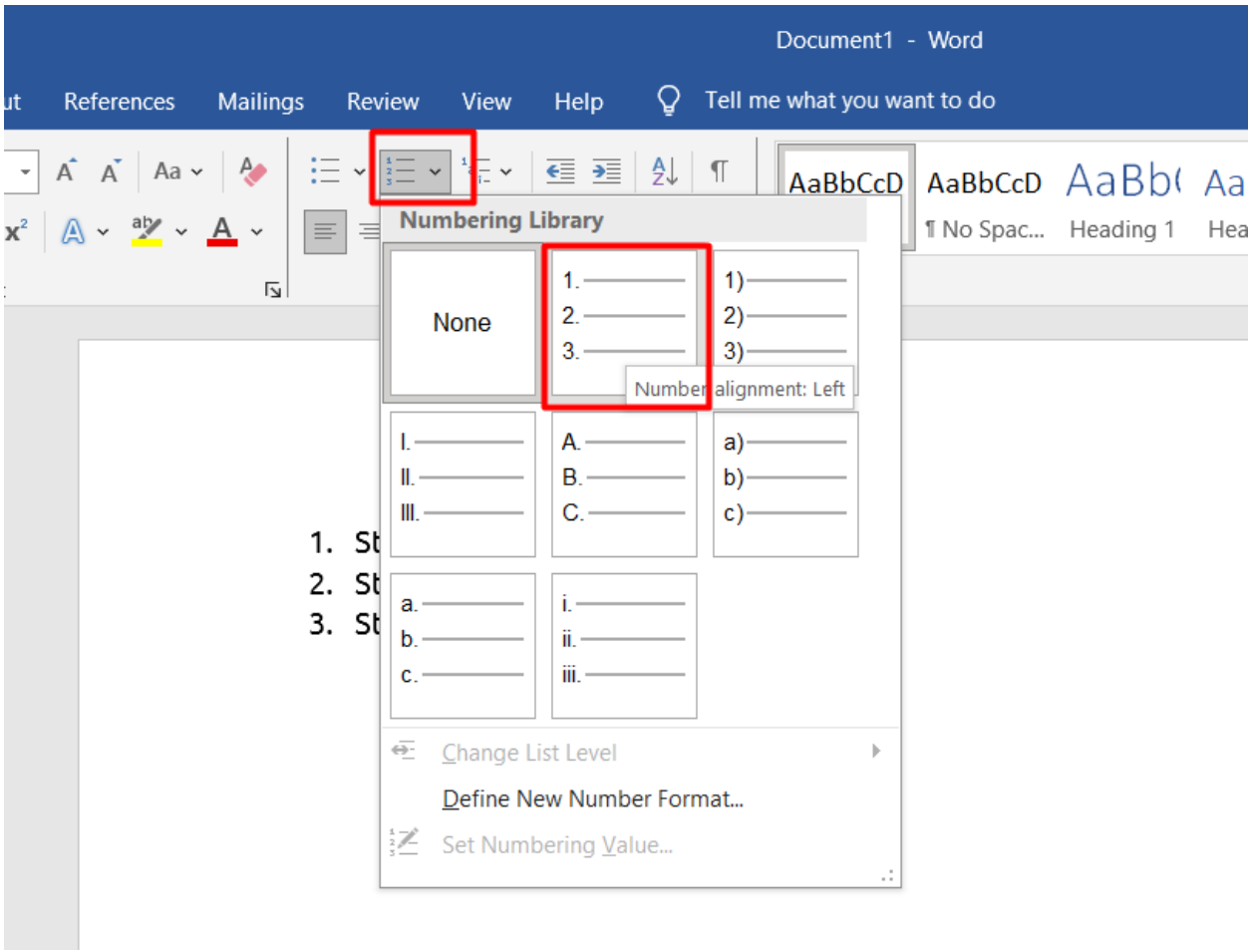
7. Highlight another set of items, e.g.:

   Step One

   Step Two

   Step Three

8. Go to the **Home tab** → **Paragraph group**.
9. Click on the **Numbering icon (1, 2, 3)** to make it a numbered list.



10. Try changing the **bullet style** (e.g., circle, square, checkmark) by clicking the drop-down arrow beside the Bullets icon.
11. Try changing the **number format** (e.g., a, b, c or i, ii, iii) by clicking the drop-down arrow beside the Numbering icon.
12. Save the document as **Bullets_and_Numbering.docx**.

Result

A Microsoft Word document is created containing both bulleted and numbered lists.

Discussion

In this lab, I learned how to create and format lists in Microsoft Word using bullets and numbering. I understood that bulleted lists are useful for unordered information, while numbered lists are used for sequential steps. These features improve document organization and readability.

Lab Work No: 04

Name of the Lab Work: Microsoft Word: Insert a Table in a Document

Objectives

- Learn how to insert tables in Microsoft Word.
- Understand the concept of rows and columns.
- Practice filling data inside a table.
- Explore formatting options to improve table presentation.

Theory

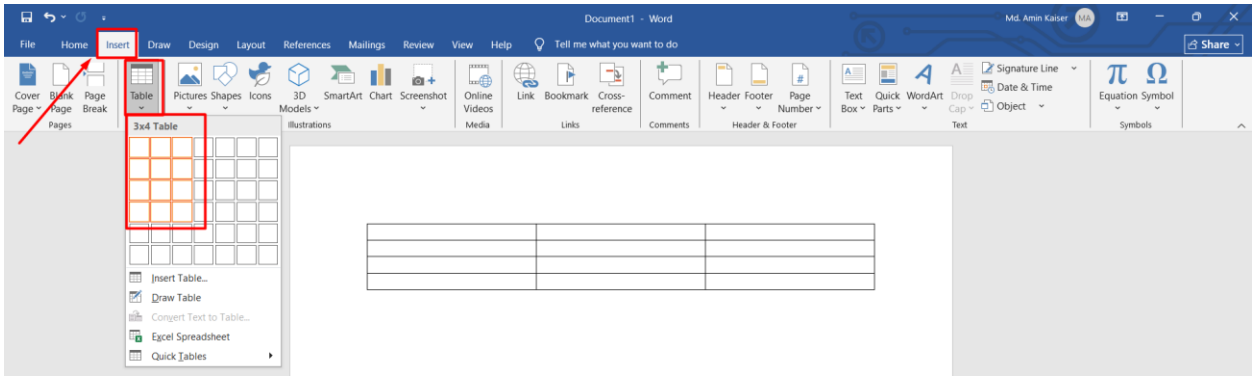
A table is a structured arrangement of information made up of **rows** (horizontal) and **columns** (vertical). It is one of the most effective ways to present organized data such as schedules, mark sheets, or comparisons. Microsoft Word allows users to easily insert and format tables from the **Insert tab → Table option**.

Requirements

Hardware: Computer
Software: Microsoft Word

Work Procedure

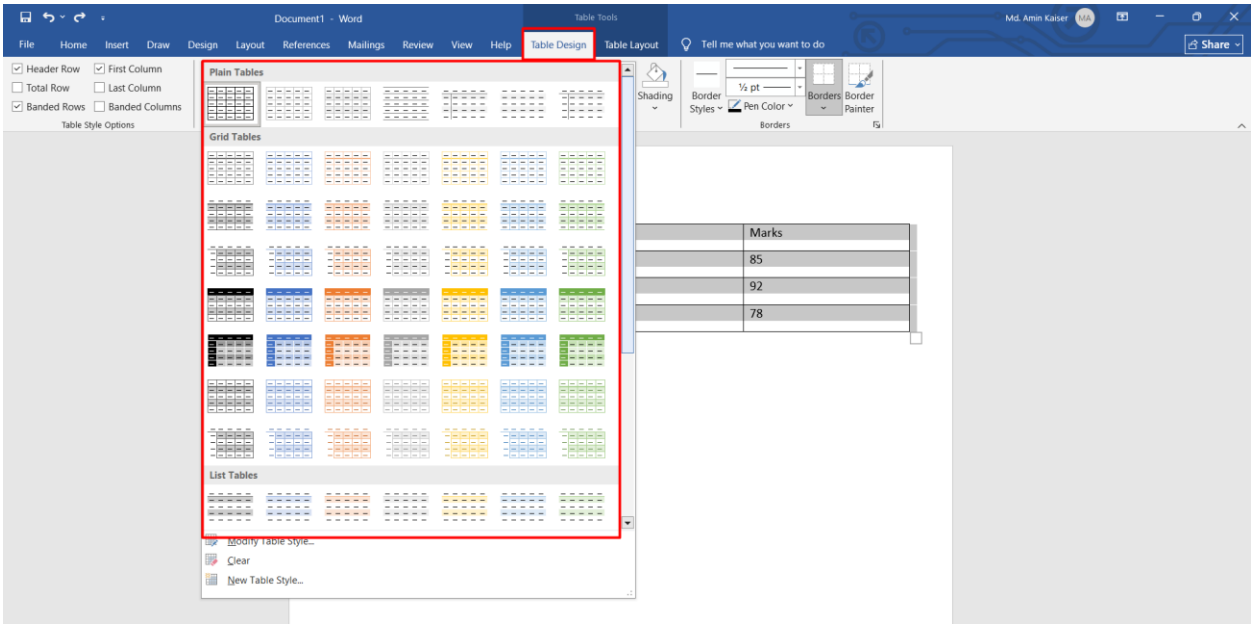
1. Open **Microsoft Word**.
2. Go to the **Insert tab** on the Ribbon.
3. In the **Tables group**, click on **Table**.
4. Move the mouse over the grid to select the number of rows and columns (e.g., 3 columns × 4 rows).
5. Click to insert the table into the document.



6. Type the following sample data inside the table:

Name	Class	Marks
Student 1	10	85
Student 2	10	92
Student 3	10	78

7. Use **Table Tools → Design and Layout tabs** to:
    - Apply table styles.
    - Change borders and shading.
    - Adjust row height and column width.



8. Save the file as **Insert_Table.docx**.

Result

A Word document is created containing a formatted table with rows and columns filled with sample data.

Discussion

In this lab, I have learned how to insert and format a table in Microsoft Word. I understood the importance of rows and columns in presenting data and how formatting improves clarity.

Lab Work No: 05

Name of the Lab Work: Microsoft Excel: Addition, Subtraction, Multiplication and Division Operations by Using Formula

Objectives

- Learn how to perform basic arithmetic operations in Microsoft Excel.
- Understand the use of cell references in formulas.
- Apply Excel formulas for addition, subtraction, multiplication, and division.
- Learn the use of built-in functions like **SUM()** and **PRODUCT()**.
- Gain hands-on experience in organizing and calculating data in spreadsheets.

Theory

Microsoft Excel is a spreadsheet application used to store, organize, and calculate data. One of its main features is the ability to perform arithmetic operations using formulas. A formula in Excel always begins with an **equal sign (=)** followed by the operation. Cell references (like A1, B1) are used instead of direct numbers to make formulas dynamic.

1. **Addition formula:** =A1+B1
2. **Subtraction formula:** =A1-B1
3. **Multiplication formula:** =A1*B1
4. **Division formula:** =A1/B1

Examples of built-in functions:

- **SUM function (addition of multiple cells):** =SUM(A1:B1)
- **PRODUCT function (multiplication of multiple cells):** =PRODUCT(A1,B1)

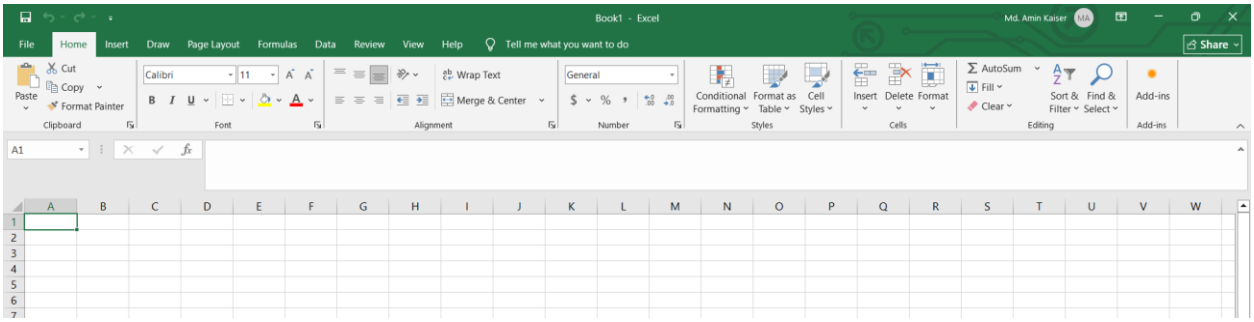
Requirements

Hardware: Computer

Software: Microsoft Excel

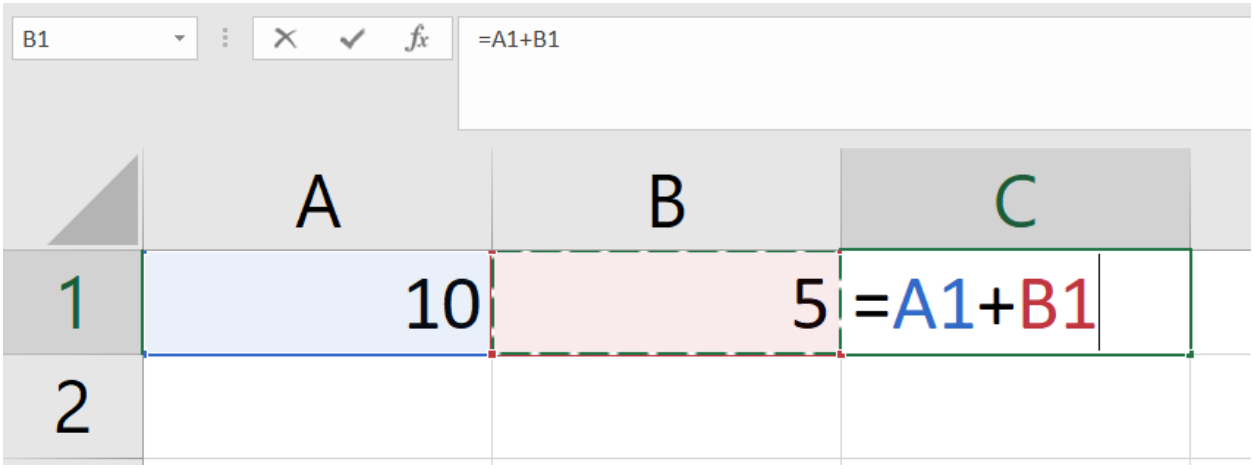
Work Procedure

1. Open **Microsoft Excel**.

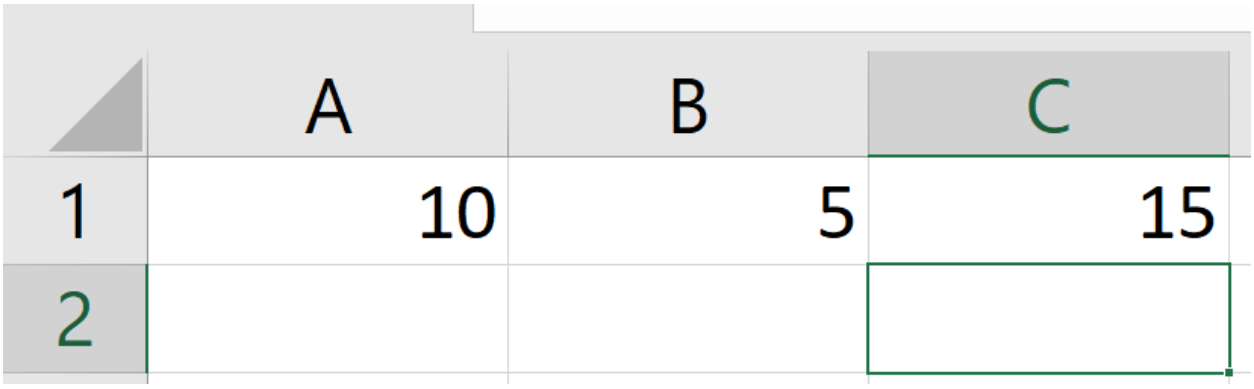


2. In **Cell A1**, type 10.
3. In **Cell B1**, type 5.
4. In **Cell C1**, type the formula for **Addition**:

   =A1+B1

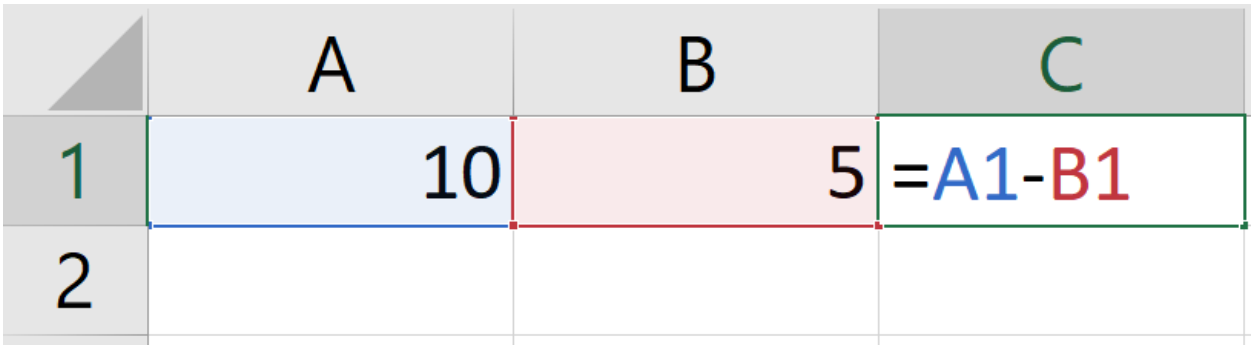


(Result will be 15).



5. In **Cell C1**, type the formula for **Subtraction**:

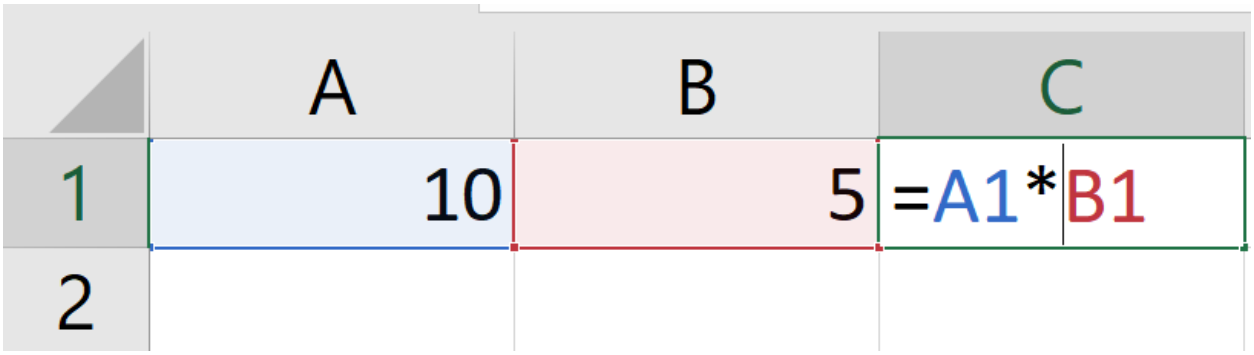
   =A1-B1



(Result will be 5).

6. In **Cell C1**, type the formula for **Multiplication**:

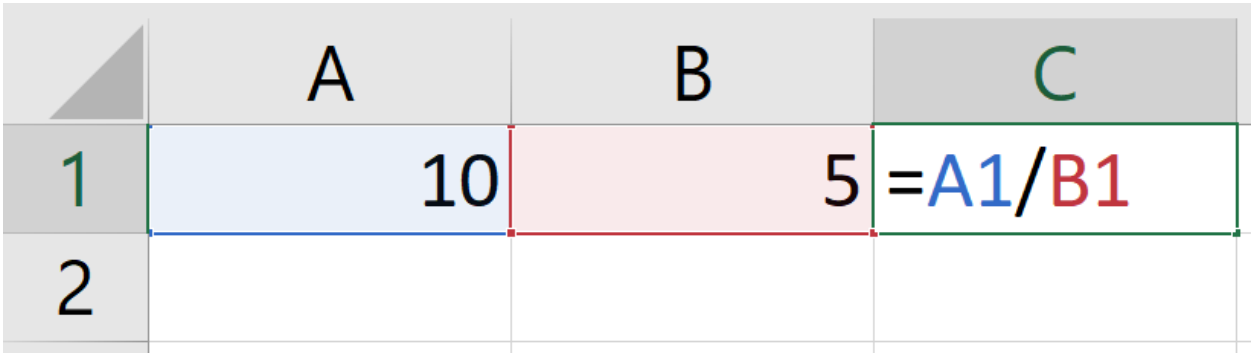
   =A1*B1



(Result will be 50).

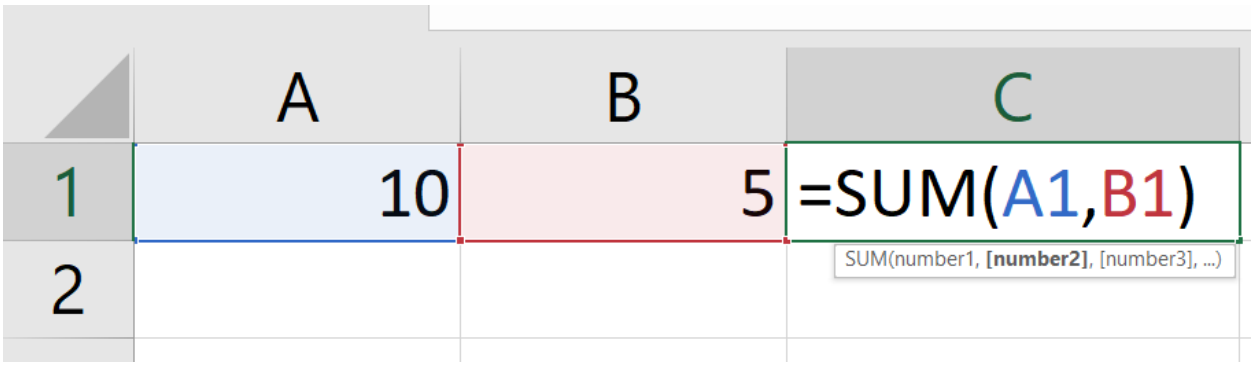
7. In **Cell C1**, type the formula for **Division**:

   =A1/B1



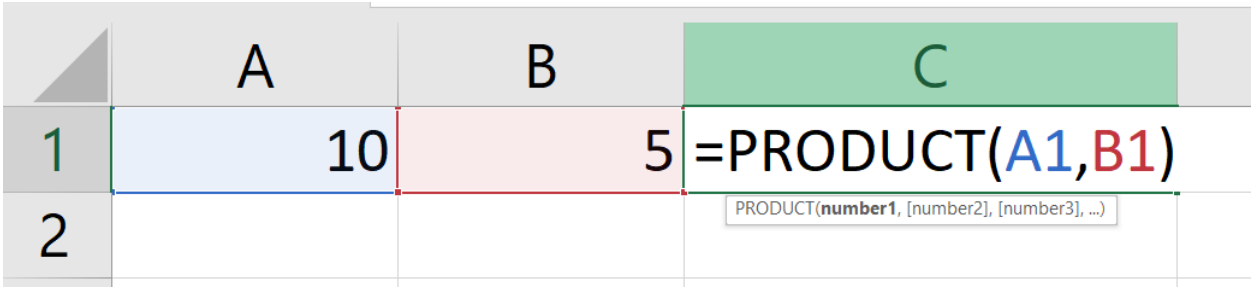
(Result will be 2).

8. In **Cell C1**, use the **SUM function**:
   =SUM(A1,B1)



(Result will be 15).

9. In **Cell C1**, use the **PRODUCT function**:
   =PRODUCT(A1,B1)



(Result will be 50).

10. Save the file as **Excel_Basic_Operations.xlsx**.

Result

An Excel spreadsheet is created that performs addition, subtraction, multiplication, and division using formulas.

Discussion

In this lab, I have learned how to use formulas in Microsoft Excel to perform arithmetic operations. I understood how cell references make formulas flexible, and how Excel automatically updates results if the input values change.

Lab Work No: 06

Name of the Lab Work: Microsoft Excel: Calculating Percentage

Objectives

- Learn how to calculate percentages using formulas in Microsoft Excel.
- Understand the relationship between part and whole in percentage calculation.

- Apply Excel formulas for real-life examples such as marks, discounts, and sales data.
- Practice formatting numbers as percentages.

Theory

A **percentage** represents a part of a whole, expressed out of 100.

Percentage =($\frac{Part}{Whole}$) × 100

In Microsoft Excel:

- A formula always starts with **=**
- Percentages can be calculated using division and multiplication.
- Excel provides a **Percentage format (%)** in the **Number group** to automatically display results as percentages.

Examples:

- = (Obtained Marks / Total Marks) * 100
- = (Value / Total) * 100

Requirements

Hardware: Computer

Software: Microsoft Excel

Work Procedure

1. Open **Microsoft Excel**.
2. In **Cell A1**, type Student.
3. In **Cell B1**, type Obtained Marks.
4. In **Cell C1**, type Total Marks.
5. In **Cell D1**, type Percentage.
6. Enter the following sample data:

	A	B	C	D
1	**Student**	**Obtained Marks**	**Total Marks**	**Percentage**
2	Student -1	80	100	
3	Student -2	45	50	
4	Student -3	120	150	

7. In **Cell D2**, type the formula:

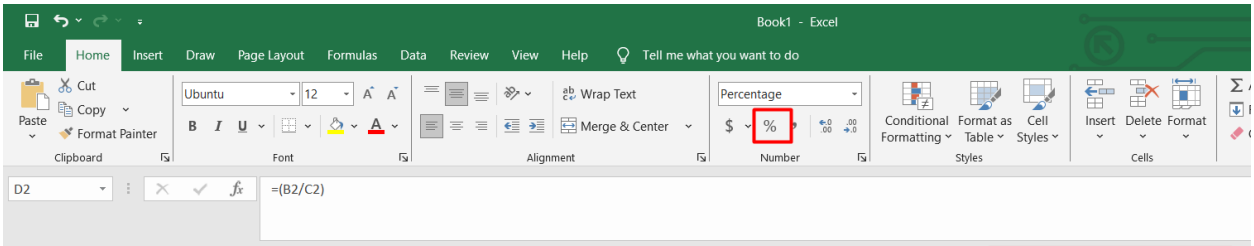
=(B2/C2)*100

	A	B	C	D	E
1	**Student**	**Obtained Marks**	**Total Marks**	**Percentage**	
2	Student -1	80	100	=(B2/C2)*100	
3	Student -2	45	50		
4	Student -3	120	150		

(Result will be 80)

8. Copy the formula down for other rows (**D3, D4**).
9. Select column **D** and apply the **Percentage (%) format** from the **Home tab** → **Number group**.

Now results will display as 80%, 90%, and 80%.



	A	B	C	D
1	**Student**	**Obtained Marks**	**Total Marks**	**Percentage**
2	Student -1	80	100	80%
3	Student -2	45	50	90%
4	Student -3	120	150	80%

10. Save the file as **Excel_Percentage.xlsx**.

Result

An Excel spreadsheet is created that calculates percentages based on obtained marks and total marks, and displays them in percentage format.

Discussion

In this lab, I learned how to calculate percentages in Microsoft Excel using formulas. I understood how Excel's **Percentage format** simplifies calculations and makes results more readable. This method can also be applied in real-life cases like discounts, exam results, and sales reports.

Lab Work No: 07

Name of the Lab Work: Python Program to Check Pass or Fail Based on Marks

Objectives

- Learn how to take user input in Python.
- Understand the use of **conditional statements (if–else)**.
- Apply logical conditions to solve real-life problems.
- Develop problem-solving skills using Python programming.

Theory

In Python, decision-making is done using **if, else, and elif** statements.

- The if statement checks a condition.
- If the condition is **True**, the program executes the statements under if.
- If the condition is **False**, the program executes the statements under else.

Syntax:

```
if condition:
    statement(s)
else:
    statement(s)
```

For this problem:

- If marks are **40 or more** → **Pass**
- If marks are **less than 40** → **Fail**

Requirements

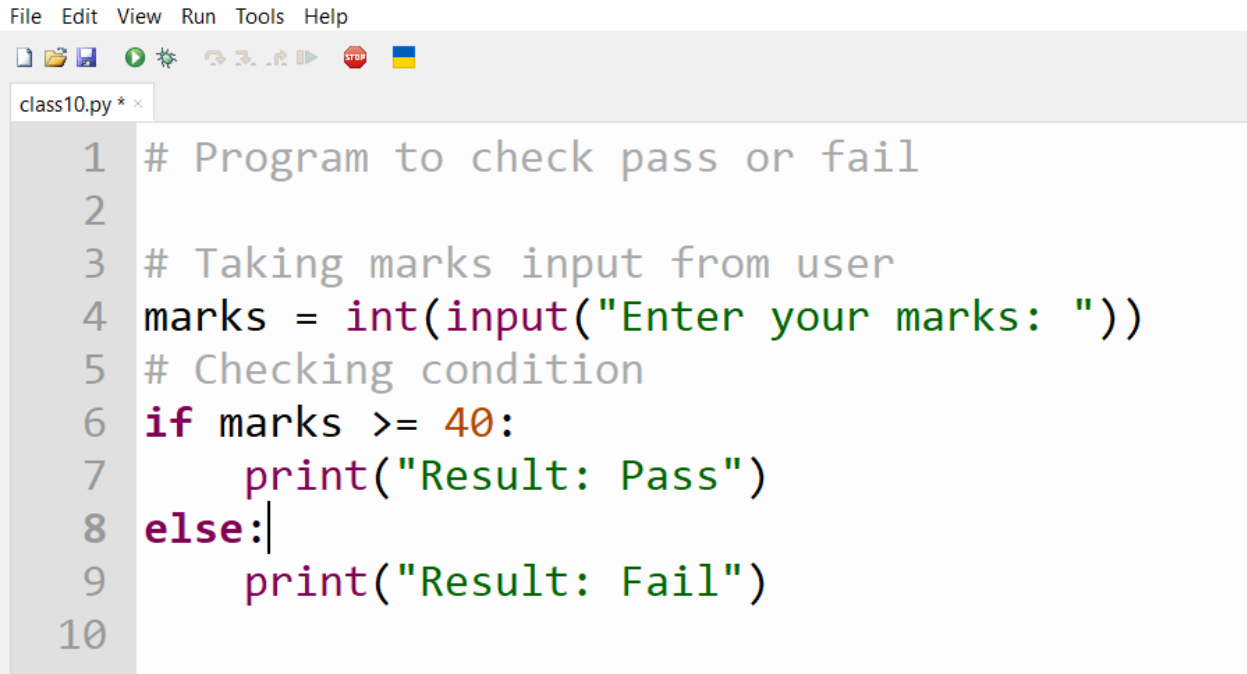
Hardware: Computer with Python installed
Software: Thonny Code Editor

Work Procedure

1. Open Thonny IDE.

2. Create a new file by clicking File → New.

Type the following code:



3.Save the program (File → Save As)

4.Click Run ▶ or press F5 to execute the program.

5.Enter marks when prompted and check the result.

Sample Output

Case 1:

Enter your marks: 55

Result: Pass

Case 2:

Enter your marks: 35

Result: Fail

Result

A Python program is successfully written and executed to check whether a student passes or fails based on marks input.

Discussion

In this lab, I learned how to use **if–else statements** in Python to make decisions based on conditions. This logic can be extended to solve many real-life problems such as grading systems, eligibility checks, and validations.

Lab Work No: 08

Name of the Lab Work: Python Program to Check Even or Odd Number

Objectives

- Learn how to take user input in Python.
- Understand the use of **modulus operator (%)**.
- Apply **if–else conditional statements** to determine even or odd numbers.
- Develop logical thinking and problem-solving skills.

Theory

- A number is **even** if it is divisible by 2 (remainder = 0).
- A number is **odd** if it is not divisible by 2 (remainder ≠ 0).
- In Python, the **modulus operator (%)** returns the remainder of a division.

Example:

number % 2

- If the result is 0 → even
- If the result is 1 → odd

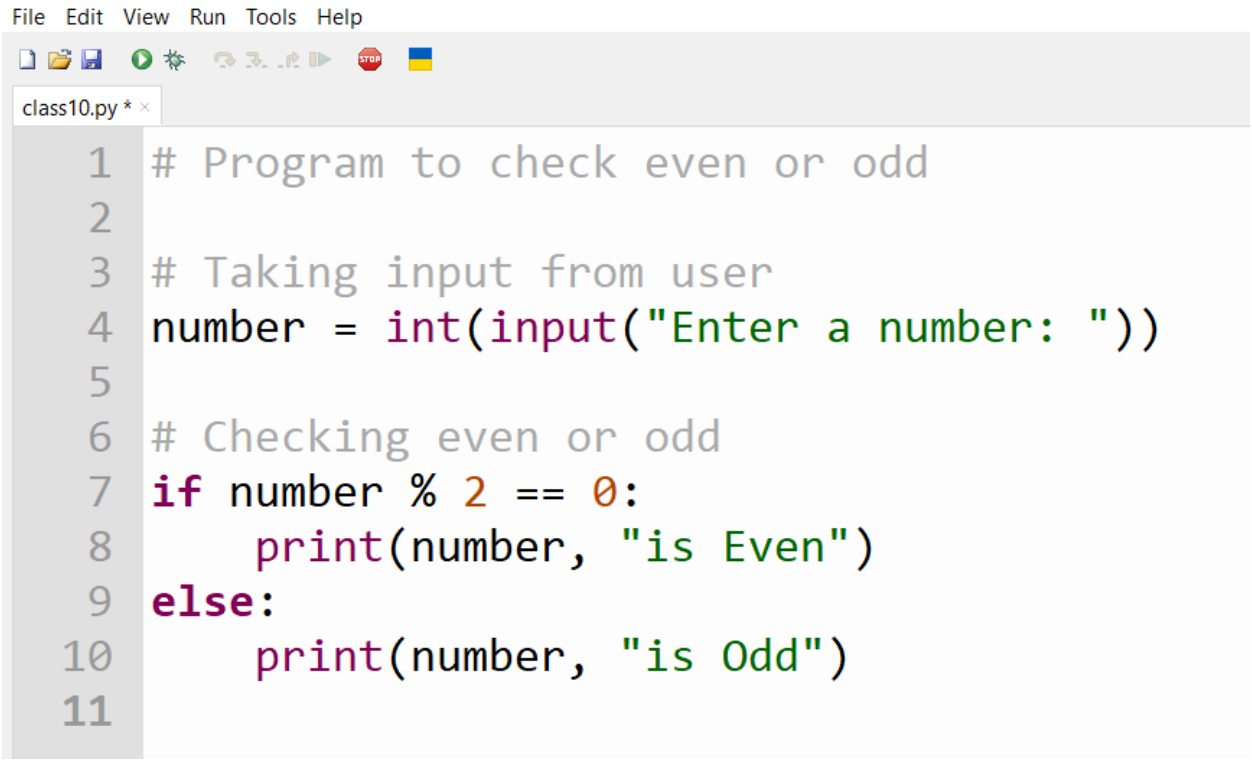
Requirements

Hardware: Computer

Software: Python (Thonny IDE)

Work Procedure

1. Open **Thonny IDE**.
2. Create a **new file** (File → New).
3. Type the following program:



4. Save the program (File → Save As).
5. Click **Run** ▶ or press **F5** to execute the program.
6. Enter any number when prompted and observe the output.

Sample Output

Case 1:

Enter a number: 12

12 is Even

Case 2:

Enter a number: 7

7 is Odd

Result

The program runs successfully in Thonny IDE and correctly identifies whether a number is even or odd.

Discussion

In this lab, I learned how to use the **modulus operator (%)** and **if–else statements** in Python to determine the parity of a number. This concept is widely used in programming for tasks such as number classification, validations, and conditional logic.

Lab Work No: 09

Name of the Lab Work: Python Program to Determine Whether a Year is a Leap Year

Objectives

- Learn how to take user input in Python.
- Understand the rules for determining a leap year.
- Apply **if–elif–else statements** to implement logic.
- Develop problem-solving skills using Python programming.

Theory

A **leap year** is a year that has **366 days** instead of 365, with **February having 29 days**.

Rules to check a leap year:

1. A year is a leap year if it is divisible by **4**.
2. But if the year is divisible by **100**, it is **not** a leap year, unless…
3. The year is also divisible by **400**, in which case it **is** a leap year.

Example:

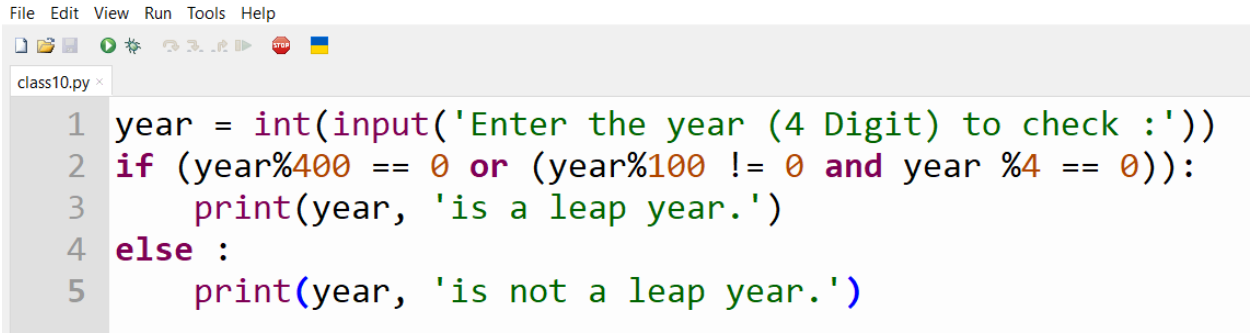
- 2000 → Leap year (divisible by 400)
- 1900 → Not a leap year (divisible by 100 but not 400)
- 2024 → Leap year (divisible by 4, not 100)

Requirements

Hardware: Computer
Software: Python (Thonny IDE)

Work Procedure

1. Open **Thonny IDE**.
2. Create a **new file** (File → New).
3. Type the following program:



4. Save the file.
5. Click **Run** ▶ or press **F5** to execute the program.
6. Enter a year when prompted and check the output.

Sample Output

Case 1:

Enter a year: 2024

2024 is a Leap Year

Case 2:

Enter a year: 1900

1900 is Not a Leap Year

Case 3:

Enter a year: 2000

2000 is a Leap Year

Result

The program runs successfully in Thonny IDE and correctly determines whether a given year is a leap year or not.

Discussion

In this lab, I learned how to use **nested if statements** in Python to implement multiple conditions. I understood the rules for leap years and how logical conditions can be applied in programming to solve real-life problems such as calendars and date calculations.