



CHAPTER

7

INTRODUCTION TO MS EXCEL 2016

INTRODUCTION

You have seen a list of items in tabular form several times. For example, the bills you receive from shops, the annual report card received from school or the scorecard of a cricket team. These tables with rows and columns are called **spreadsheets**.

| Invoice | | | | | |
|-------------------|-------------|----------|-------|-------------|------|
| Item No. | Description | Quantity | Price | Total | |
| 1002 | Tea | ½ | 50 | | |
| 2012 | Rice | 1 | 60 | | |
| 3562 | Sugar | 1 | 80 | | |
| 1005 | Pulses | 1 | 80 | | |
| 1896 | Ice Cream | 1 | 40 | | |
| Term & Conditions | | | | | |
| | | | | ₹310 | |
| | | | | Sales Tax - | NIL |
| | | | | Total | ₹310 |

bill

| Result Of Final Exam | | | | |
|----------------------|---------------|---------------------------|--------------------|-----------------------|
| Class 5 - A | G.R. No. 1125 | Roll No. 3 | A.Y. 2019-20 | |
| Name - c | | | | |
| Subjects | Total Marks | Marks Obtained | Grade | Remarks |
| Sub-1 | 100 | 80 | A | Very Good |
| Sub-2 | 100 | 80 | A | Very Good |
| Sub-3 | 100 | 80 | A | Very Good |
| Sub-4 | 100 | 80 | A | Very Good |
| Sub-5 | 100 | 80 | A | Very Good |
| Sub-6 | 100 | 80 | A | Very Good |
| Sub-7 | 100 | 80 | A | Very Good |
| Sub-8 | 100 | 80 | A | Very Good |
| Sub-9 | 100 | 80 | A | Very Good |
| Sub-10 | 100 | 80 | A | Very Good |
| Total | 1000 | 800 | | |
| Percentage | 80.00% | School will reopen on | Attendance | |
| Overall Grade | A | 12-05-2019 | 162 | 245 |
| Rank | 4 | | | |
| Result | Qualified | Promoted to class | 6 | |
| | | Class Teacher's Signature | Parent's Signature | Principal's Signature |

marksheet

| STANDINGS | | | | | | | |
|-----------|--------------|---|---|-------|---|--------|--------|
| POS | TEAM | P | W | H/R/T | L | POINTS | NGS |
| 1 | AUSTRALIA | 8 | 7 | 0 | 1 | 14 | 1 |
| 2 | INDIA | 7 | 5 | 1 | 1 | 11 | 0.854 |
| 3 | NEW ZEALAND | 8 | 5 | 1 | 2 | 11 | 0.572 |
| 4 | ENGLAND | 8 | 5 | 0 | 3 | 10 | 1 |
| 5 | PAKISTAN | 8 | 4 | 1 | 3 | 9 | -0.792 |
| 6 | BANGLADESH | 7 | 3 | 1 | 3 | 7 | -0.133 |
| 7 | SRI LANKA | 7 | 2 | 2 | 3 | 6 | -1.186 |
| 8 | SOUTH AFRICA | 8 | 2 | 1 | 5 | 5 | -0.08 |
| 9 | WEST INDIES | 7 | 1 | 1 | 5 | 3 | -0.32 |
| 10 | AFGHANISTAN | 8 | 0 | 0 | 8 | 0 | -1.418 |

points table

SPREADSHEETS

A **spreadsheet** is defined as a large sheet which contains data and information, arranged in **rows** and **columns**. It is also known as a **worksheet**. It is a rectangular table (or grid) of information, which often contains financial information of an organisation.

It is a very easy way to organise data in rows and columns. This allows data to be analysed and interpreted easily.

Spreadsheets are useful in various fields. They are used in business and by the engineers and scientists to perform complex calculations. A spreadsheet processes numbers.

You can create spreadsheets on a computer too, you just need the particular software or program for it. A computer spreadsheet is also known as an **electronic spreadsheet**. It is used to analyse and manipulate sets of numbers. Through a computer spreadsheet, you can perform different calculations quickly using different formulae. A spreadsheet program is designed to perform general computational tasks.

I Do You Know

The word ‘spreadsheet’ came from ‘spread’ in its sense of a newspaper or magazine item that covers two facing pages, extending across the centre fold and treating the two pages as a single large page.

Now-a-days, there are many software available to create spreadsheets in a computer. For example : **Microsoft Excel, Google Sheets, OpenOffice Calc and Keynote.**

Let us learn about **Microsoft Excel 2016** in this chapter.

FEATURES OF MICROSOFT EXCEL

- ❖ **AutoComplete:** The AutoComplete feature completes typing of a word that is used repeatedly in a column of a list after you type a few letters of the word or phrase.
- ❖ **AutoCorrect:** The AutoCorrect feature in Excel corrects common typing errors as you work. For example, Excel automatically changes ‘adn’ to ‘and’ ‘their is’ to ‘there is’.
- ❖ **Selecting Ranges:** Just highlight the initial cell in the range, hold down the left mouse button and drag it diagonally until all the required cells are selected.
- ❖ **Check Spelling:** When you check spelling, Microsoft Excel checks the entire active worksheet, including cell values, cell comments, embedded charts, text boxes, buttons, headers and footers. However, Excel does not check protected worksheets, formulae or text that results from a formula.
- ❖ **Apply Formulae on a Range:** Formulae and functions can be applied on a large range of cells.
- ❖ **Filling Ranges:** To fill the ranges, highlight the initial cells in the range. Select Fill handle and drag it to enclose the desired area to be filled with the series of numbers.
- ❖ **Creating Charts:** A variety of charts can be created in a matter of minutes, no matter how complex the data may be.
- ❖ **Worksheet Linking:** Worksheets and workbooks can be linked to share updated data and formulae.

- ❖ **What-If Analysis:** What-If Analysis is a process of changing the values in cells, which helps to predict the outcome of formulae on the worksheet. For example, you can create an analysis by typing different interest rates to find out the payment amounts. In the current versions, this facility is also called **Scenario**.
- ❖ **New Features:** This includes Tablet PC support, Research task pane, XML support, List features, Smart Documents and improved Statistical functions.

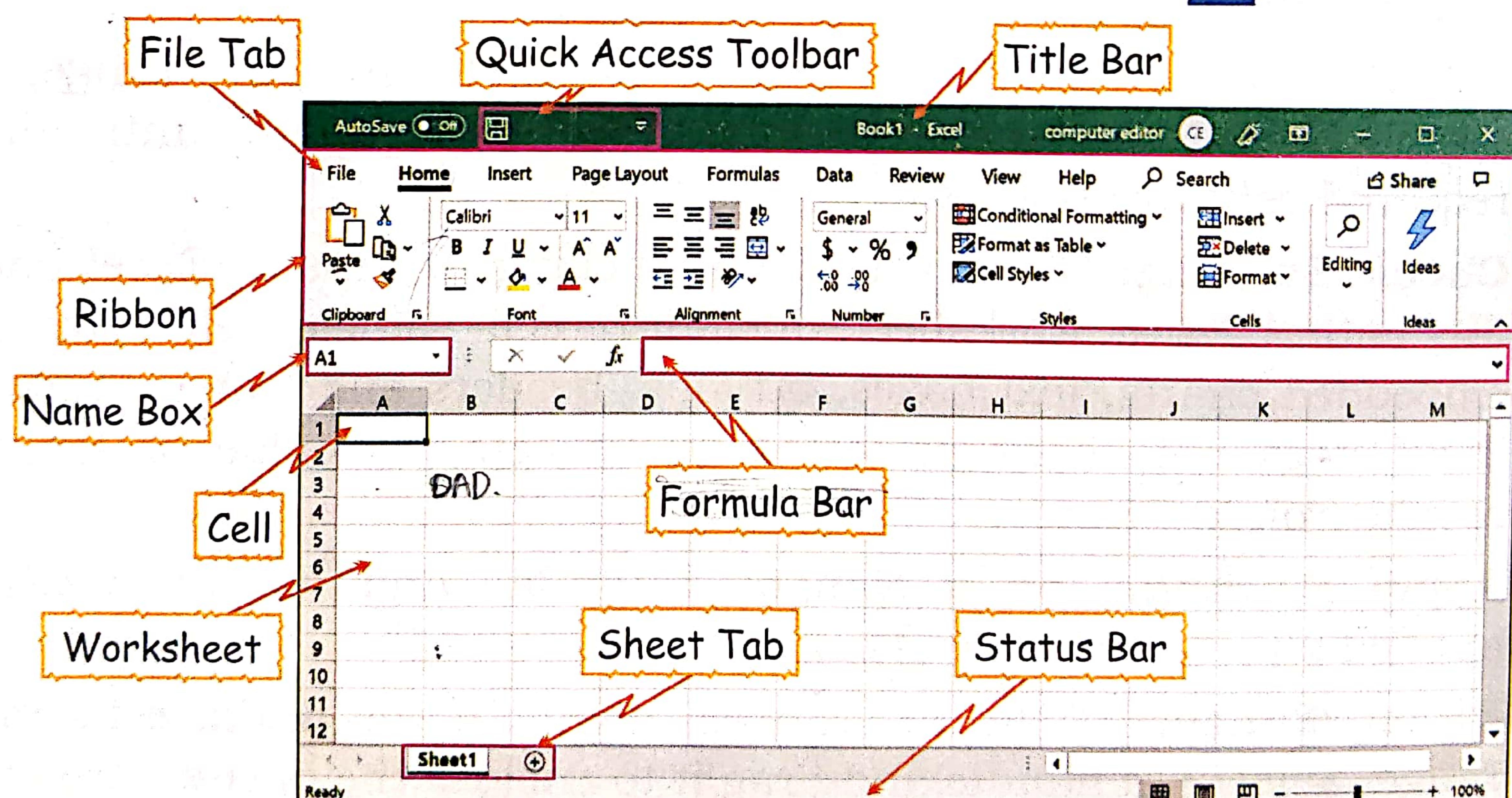
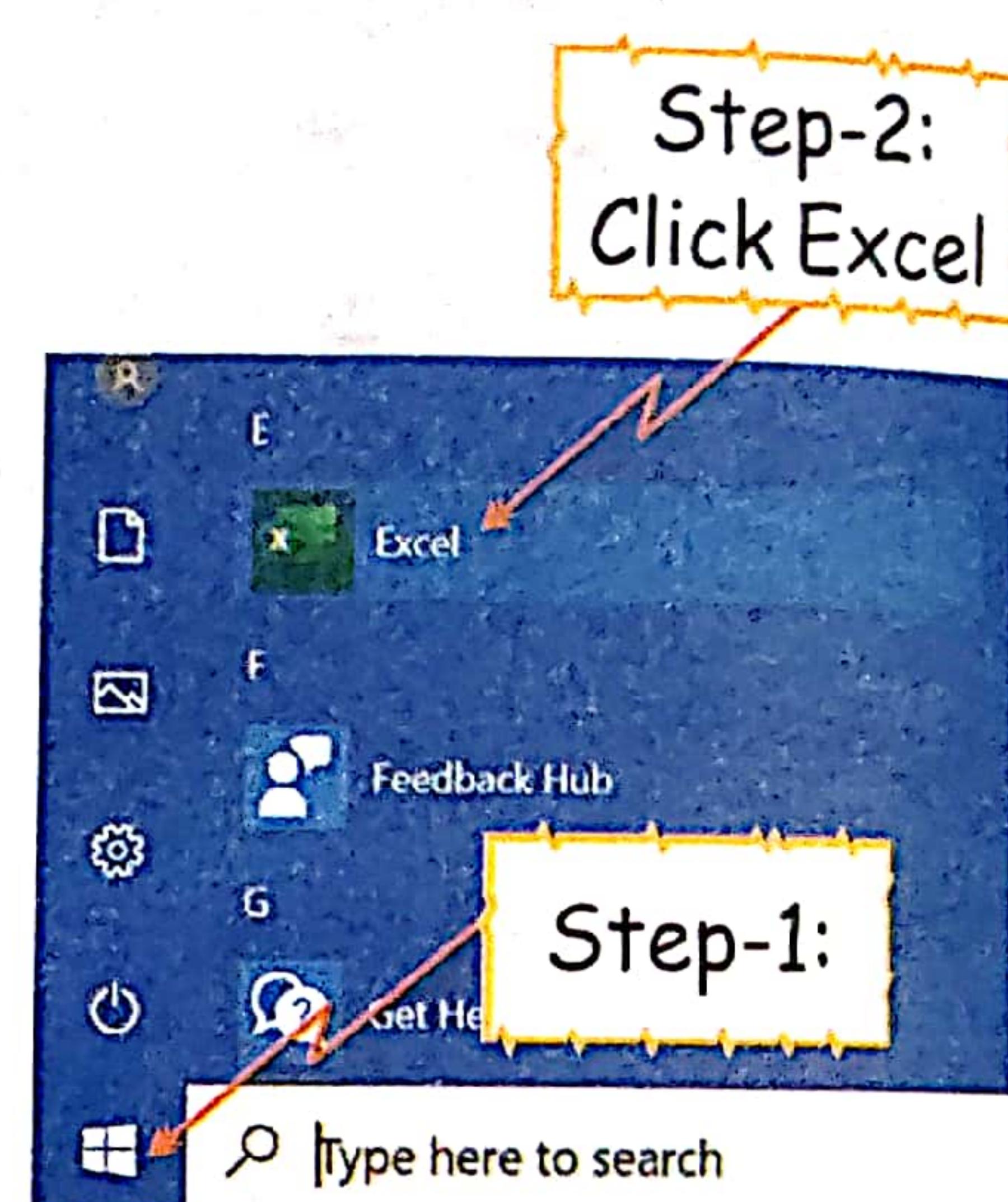
STARTING MICROSOFT EXCEL 2016

To start Microsoft Excel, follow the given steps:

Step-1: Click the **Start** button.

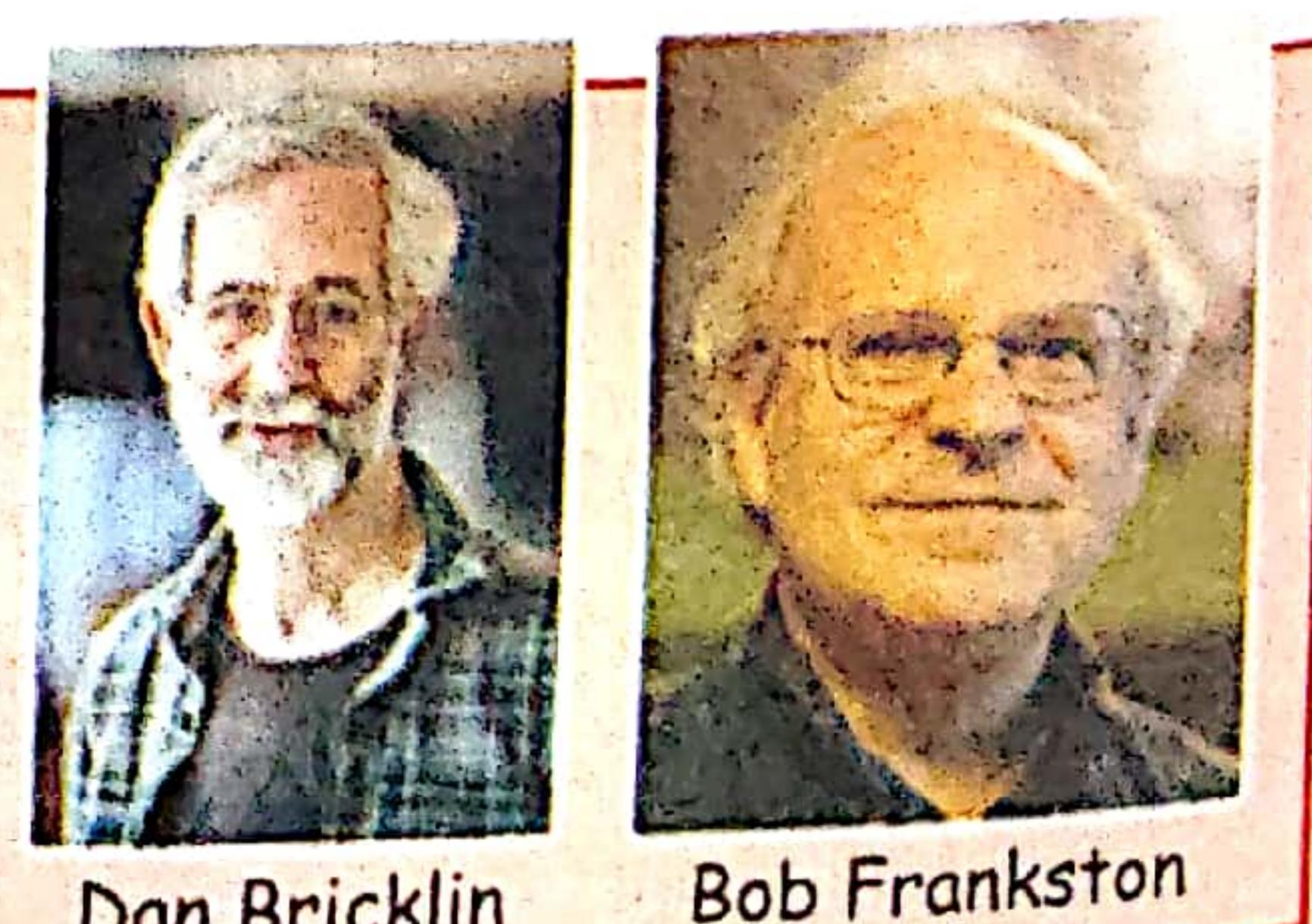
Step-2: Scroll the mouse to 'E'. Click on **Excel**.

The Microsoft Excel 2016 screen appears with a blank sheet.



Do You Know

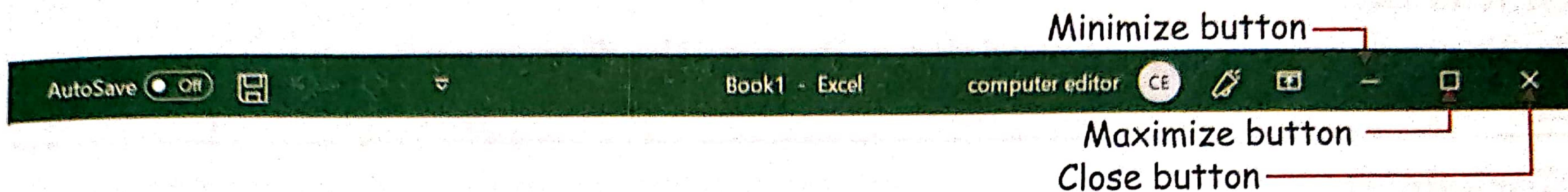
Dan Bricklin is known as the father of the electronic spreadsheet. In 1978, he gave the idea of an interactive visible calculator. Dan Bricklin and Bob Frankston co-invented the software ViSiCalc (similar to MS Excel), which was the first spreadsheet application for personal computers.



SCREEN ELEMENTS OF MICROSOFT EXCEL 2016

Title Bar

It appears on top of the screen. **Title bar** displays the name of the current workbook. It also contains Minimize, Maximize and Close buttons.



Quick Access Toolbar

It is present on the Title bar. It helps us to do common tasks with just one click.

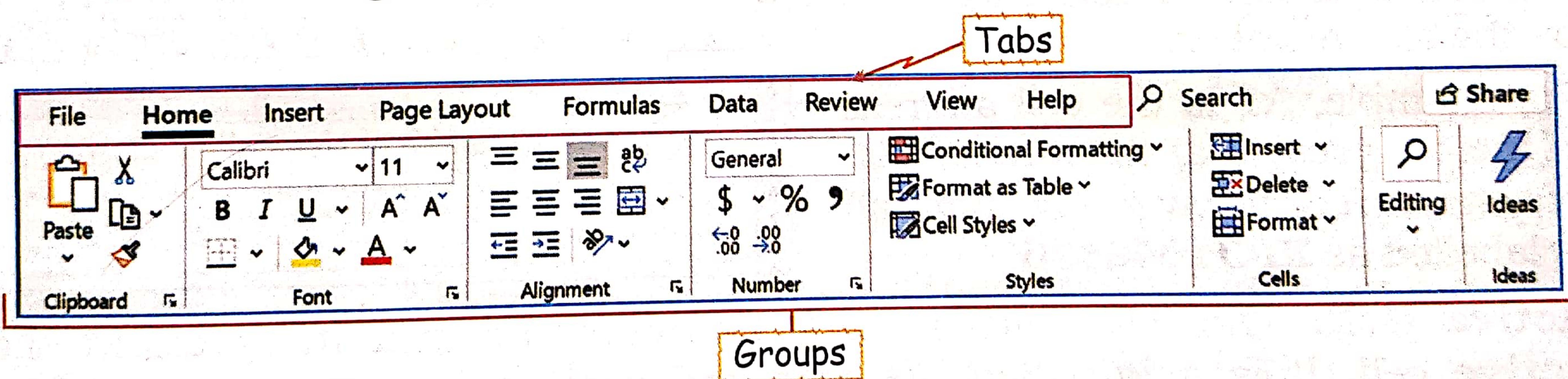
File Tab



It is the tab located in the upper-left corner of Microsoft Excel 2016 screen. When you click the File tab, you see Microsoft Office Backstage view. **Backstage view** shows the set of commands used to manage the worksheets like creating, saving, opening, printing and so on.

Ribbon

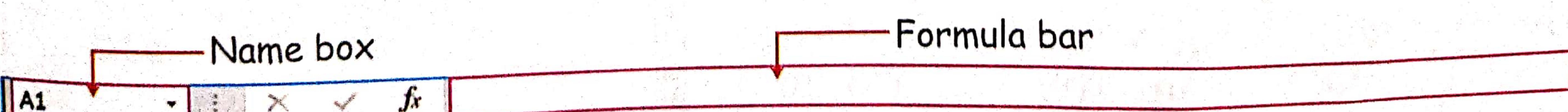
The **Ribbon** contains two parts: **tabs** and **groups**. Each tab contains commands arranged in different groups.



Name Box and Formula Bar

Name Box: The name of the active cell appears in the **Name box**. To make a cell active, you can either use the mouse or arrow keys on the keyboard to select it.

The **Formula bar** displays the characters and formulas that you enter in an active cell. The **Name box** displays the cell address of the active cell.



Sheet Tab

Sheet1



The names of the worksheet (Sheet1, Sheet2, Sheet3) appears on the **Sheet Tab**. The active sheet name is displayed in bold letters. You can move from one sheet to another by clicking on its tab.

Status Bar

It displays current status of the cells and the **Zoom** option.



Worksheet

An Excel worksheet is called a **workbook**. A blank worksheet is a part of the workbook. Each workbook contains several worksheets. The default names of the workbook are Book1, Book2 and so on and the worksheet names are Sheet1, Sheet2 and so on.

| A | B | C | D | E | F | G |
|----|---|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |

Parts Of A Worksheet

A worksheet is made up of columns and rows representing cells.

Cells: Cells are the boxes created by the intersection of rows and columns. Numbers, text or formulae are entered in these cells. Each cell has its own **address** for reference. The address consists of a column letter followed by the row number.

For example, A1 is the cell address of the cell present at the intersection of column A and row 1. The **last cell** is labelled as **XFD1048576**.

Active Cell: The cell, with a dark boundary around it, is called the **active** cell. It is also called the **selected cell** or the **current cell**. The boundary is called the **cell pointer**. It indicates the current **active cell**.

Range Of Cells: A **group** of neighbouring cells that touch each other is called the **range of cells**. It generally takes the shape of a rectangle or square.

A range is written by specifying the addresses of the first and last cells of the range. For example, a range D3:H12 starts from the cell D3 and extends till cell H12.

| Name box | | | | | | | | |
|----------|---|---|---|---|---|---|---|---|
| A1 | | x | v | f | | | | |
| A | B | C | D | E | F | G | H | I |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |

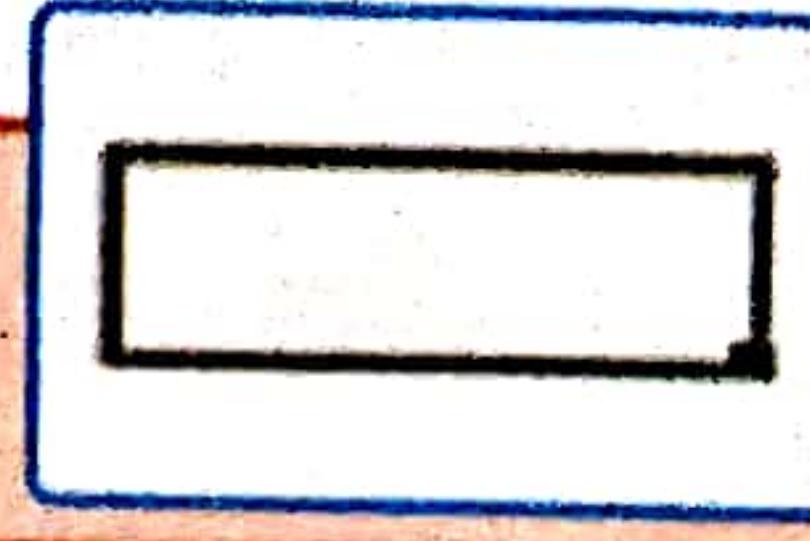
| Range of cells | | | | | | | | |
|----------------|---|---|---|---|---|---|---|---|
| D3 | | x | v | f | | | | |
| A | B | C | D | E | F | G | H | I |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |

| Remember

The new Excel 2016 workbook contains one worksheet but you can add more by clicking the **New sheet** button  on the Sheet tab.

| Do You Know

A cell is the smallest unit of a worksheet.



MOVING AROUND THE WORKBOOK

An Excel worksheet consists of **1,048,576 rows** and **16,384 columns** wherein, each row intersects all the columns forming 17,179,869,184 cells in a single worksheet. We use the cell pointer to store or manipulate data in these cells. To move quickly in a large sized worksheet, Excel provides shortcuts. These shortcuts are listed below:

| Key (s) | Function |
|---------------|---|
| Up Arrow ↑ | Moves one cell up |
| Down Arrow ↓ | Moves one cell down |
| Left Arrow ← | Moves left by one cell |
| Right Arrow → | Moves right by one cell |
| Ctrl + Home | Moves to the top of the worksheet |
| Ctrl + End | Moves to the last cell that contains data or formatting |
| Ctrl + ↑ | Moves to the first cell of the current column |
| Ctrl + ↓ | Moves to the last cell of the current column |
| Ctrl + → | Moves to the last cell of the current row |

| Practice Time

Guess the type of data in each case.

Your Name

=

.....

Your Marks

=

.....

(M1 + M2 + M3)/3

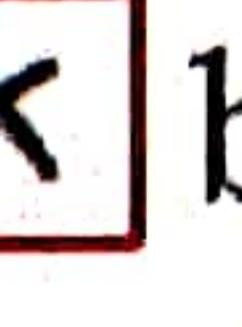
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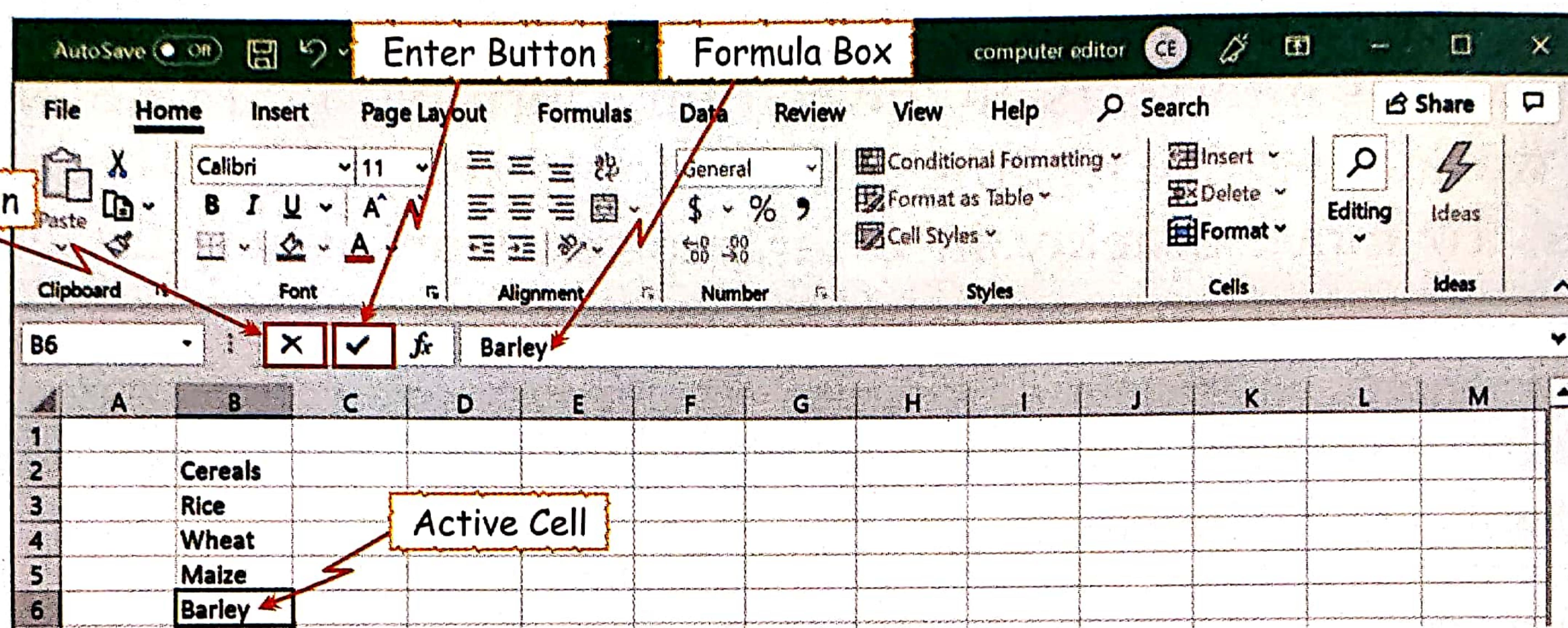
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ENTERING DATA IN CELLS

To enter data in a cell, select the cell in which data is to be entered and type the desired data. Now, press the **Enter** key.

When you type data in an active cell, the data also appears in the Formula box. At the same time, two buttons (Cancel and Enter) appear to the left of the Formula box. The **Cancel**  button is used to cancel data entry before pressing the Enter key. You can also use the **Esc** key. The **Enter**  button is used to complete the data entry.



Remember

Data is not considered to be entered into the worksheet until you press the Enter key or click the Enter  button. To cancel the data entry before pressing Enter key, you can press the Esc key.

TYPES OF DATA

You already know that you can enter numbers, formulas or text into Calc worksheet. Let us learn about these data types in detail.

Numbers: These are numeric entries that can be used in any formula or calculation. The valid characters that can be used in this are **0 - 9, +, (), /, \$, %, ., E, e**. The '+' sign before any number is ignored by Excel and '.' is treated as the decimal point. 'E' and 'e' are treated as exponential notations and any other character, if used with numbers, will be considered as the text data. By default, numbers are right aligned within a cell.

Text: Any type of data that is not numeric or formula type is considered as text. This means that any data, i.e., numeric, alphanumeric, spaces and special characters in any combination are treated as text. Some examples are: 1ABC 55, 1-12345, 12/34, 5%, 23A56. By default, Text is always left aligned in a cell.

Formulae: Formulae are equations that perform calculations on values in the worksheet. A formula should always start with an equal sign (=). If space is given before the '=' sign, it will be taken as text rather than formula, hence no calculations will take place. As soon as a valid formula is entered, the cell contents are replaced with the result of the formula. A formula can be made of simple constants or numbers.

PERFORMING CALCULATIONS

You have learnt different formulae in Mathematics. A formula is used to perform various calculations like addition, subtraction, multiplication and division of numbers. In Microsoft Excel, formulae are written differently, as compared to Mathematics. A formula in MS Excel starts with an equal(=) sign and can be maximum of 8192 characters in length.

The data in a formula can consist of any of the following:

| | | |
|--------------|---|------------------------|
| Values | : | String or numeric |
| Cell address | : | A1, B4, C8 |
| Functions | : | SUM, AVERAGE, MIN, MAX |
| Operators | : | + , - , * , / , > , < |
| Parenthesis | : | () |

Numeric Formulae use operators that are used to do some kind of calculations or comparisons.

Mathematical Operators: Arithmetic operators are used to do mathematical calculations with numeric values. They cannot be used with strings.

| Arithmetic operators in Microsoft Excel | | |
|---|----------------|----------|
| Operator | Meaning | Usage |
| + | Addition | =10 + 5 |
| - | Subtraction | =11 - 3 |
| * | Multiplication | =3 * 11 |
| / | Division | =100/ 34 |
| ^ | Exponentiation | =5^ 2 |
| % | Percentage | =10% |

Writing Simple Formulae

Let us write simple formulae using the arithmetic operators that you have just learnt. Take a look at some rules associated with writing the formulas.

- Every formula in Excel must begin with an equal (=) sign.
- There must be some arithmetic operators to operate on numbers or data.
- The data can be a cell address also.

Here are some valid formulae in Microsoft Excel.

=20+35*5

=A1+B2

=C5*15



Let us take an example of the calculation in Excel.

To calculate the total cost in E6, type =E2 + E3 + E4 + E5 and press the **Enter** key.

The result is displayed in the cell E6.

| A | B | C | D | E | F |
|----|-------|------------|----------|-----------|--------------|
| 1 | S. No | Fruit Name | Price/Kg | Qty In Kg | Total in Rs. |
| 2 | 1 | Apple | 100 | 2 | 200 |
| 3 | 2 | Mango | 80 | 3 | 240 |
| 4 | 3 | Grapes | 60 | 1.5 | 90 |
| 5 | 4 | Strawberry | 100 | 0.5 | 50 |
| 6 | | | | | =E2+E3+E4+E5 |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

You can also use the **AutoSum** (Σ) button present on the **Formulas** tab to perform addition of all numbers in a range with a single click. Select the cells you want to add and just click on the button. The sum of all the numbers will be calculated and displayed in the last cell.

Practice Time

Do the following tasks:

1. Open Microsoft Excel 2016 and type the text as shown in the worksheet.

| A | B | C | D |
|---|-----------|-----------|--------|
| 1 | Items | Date | Amount |
| 2 | Books | 30-6-2019 | 600 |
| 3 | Notebooks | 29-6-2019 | 300 |
| 4 | Pens | 28-6-2019 | 100 |
| 5 | Pencils | 27-6-2019 | 50 |
| 6 | Markers | 26-6-2019 | 70 |
| 7 | | | |

2. Use the AutoSum feature to find the total amount in cell C7.
3. Use the shortcut keys to perform the following in the worksheet.
(a) move to the top of the worksheet (b) move to the end of the worksheet
4. Save the workbook by the name **My Workbook**.

MANAGING A WORKSHEET

Renaming A Worksheet

You can rename or change the name of your worksheet by double-clicking on the sheet name on the sheet tab just above the Status bar and typing in the new name.

OR

Right click on the sheet name and click the **Rename** option.

Changing The Colour Of The Sheet Tab

To change the colour of the Sheet tab, right-click the Sheet tab and select the **Tab Color** option. Choose a colour of your choice from the sub menu that appears.



Inserting A Worksheet

To insert a new worksheet, click the **New Sheet**  icon present next to the Sheet tab.

OR

Right click the **Sheet** tab before which you want to insert a new sheet and select the **Insert** option from the context menu. An **Insert** dialog box appears with the **Worksheet** option selected. Click **OK** and your new sheet is added.

Deleting A Worksheet

To delete a worksheet, right-click the **Sheet** tab and select the **Delete** option.

OR

Click the **Delete**  drop down list from the **Cells** group on the **Home** tab and select the **Delete Sheet**  option from the list.

Do You Know

To switch between worksheets, press **Ctrl+Page Up** and **Ctrl+Page Down** key combinations.

SAVING A WORKBOOK

To save a workbook, follow the given steps:

Step-1: Click the **File** tab.

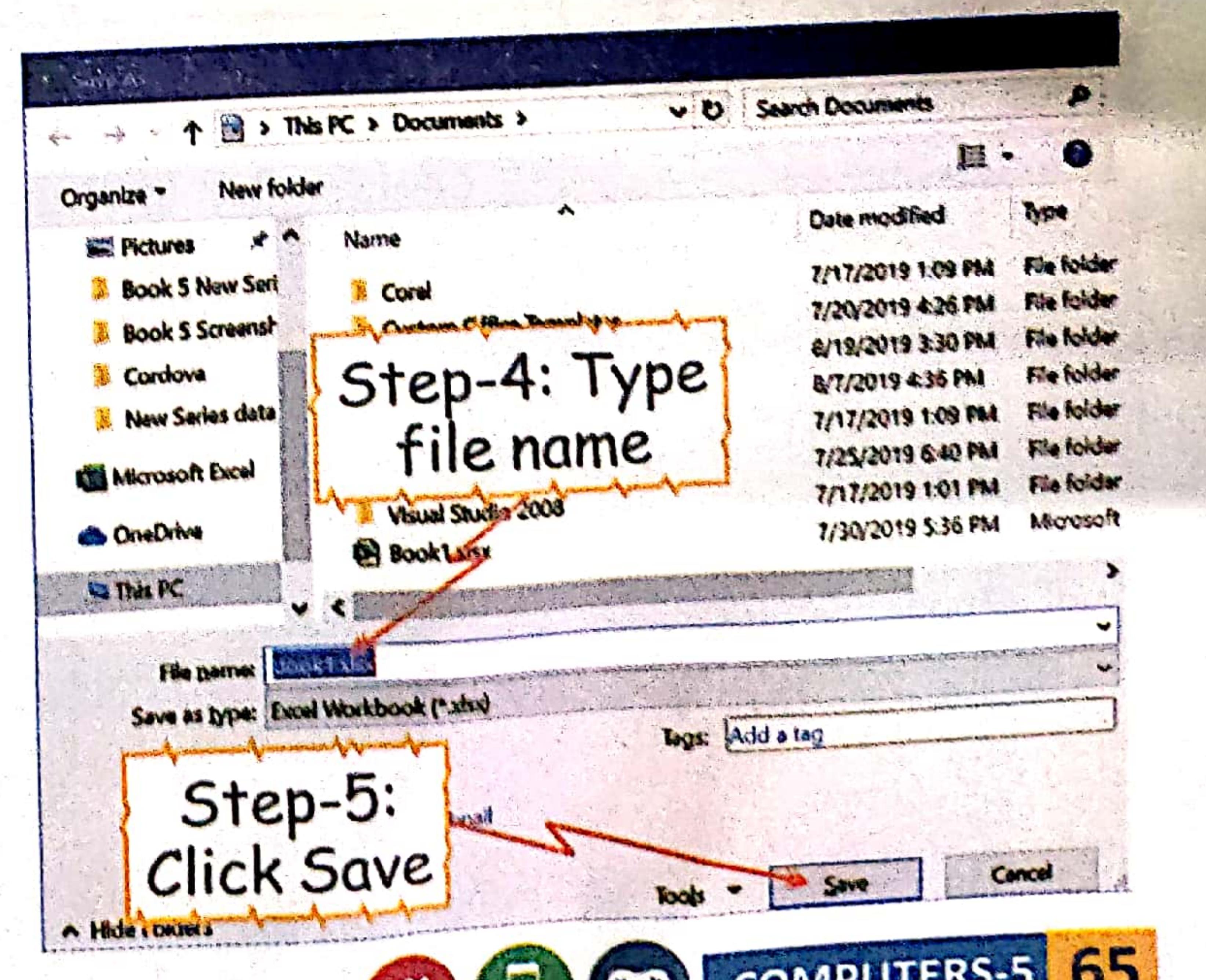
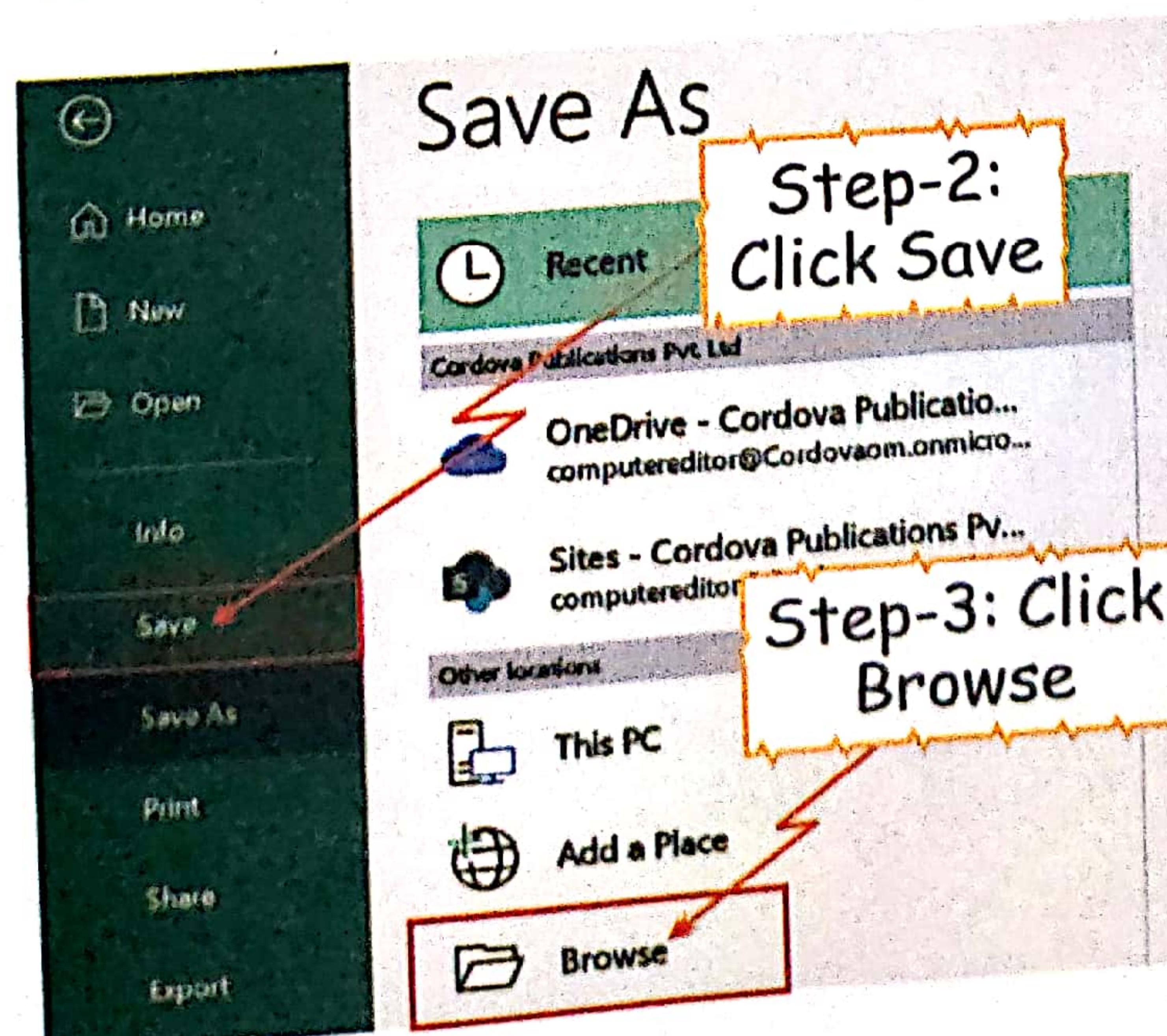
Step-2: Click the **Save** option from the Backstage view.

Step-3: Click the **Browse** option. The **Save As** dialog box appears.

Step-4: Type the file name in the **File name** box.

Step-5: Click the **Save** button.

Excel automatically adds a period(.) and an extension **.xlsx** to the file name. After the workbook is saved, the file name appears in place of **Book1** on the Title bar.



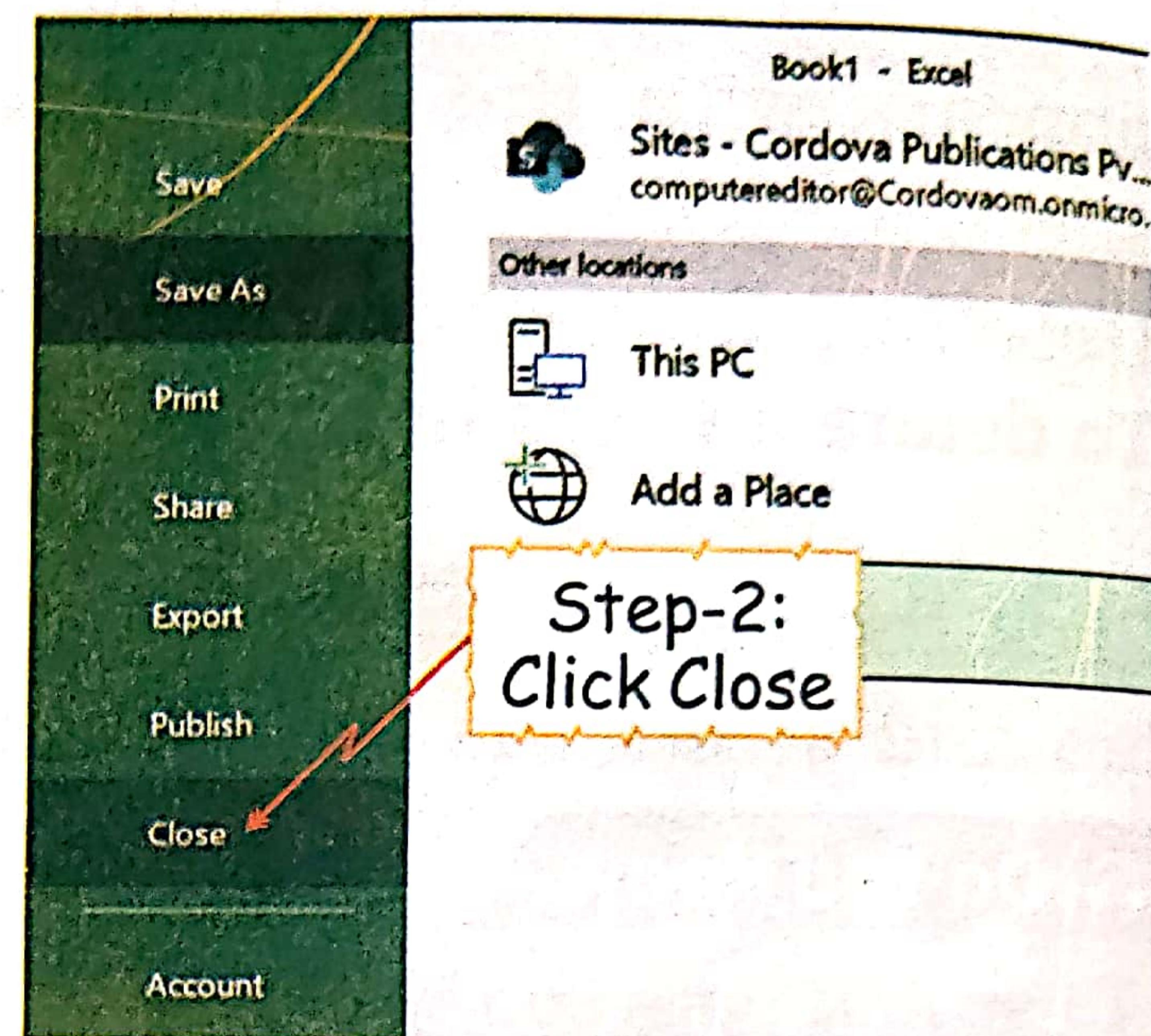
| Do You Know

When you save the workbook for the first time, the Save As dialog box appears. The next time you save, the dialog box does not appear. However, Save As option always appears with a dialog box which is used to save a workbook under a different name.

CLOSING A WORKBOOK

When you use Microsoft Excel, you have the option to open many workbooks. However, after finishing the work, you need to close the opened workbook. **To close an open workbook**, follow the given steps:

- Step-1: Click the **File** tab.
- Step-2: Click the **Close** option from the **Backstage view**. It closes the opened workbook.



| Practice Time

Do the following tasks:

- Create the worksheet as shown.
- Find the Total Cost for each item using Simple formula. One is done for you.
- Find the Grand Total in the cell F14.
- Rename the worksheet as Monthly Expenditure and change the colour of Sheet tab to Red.
- Insert two new worksheets.
- Delete the third worksheet.

| A | B | C | D | E | F | |
|----|------------------|-------------|--------------|----------|-------------|--|
| 1 | Grocery Expenses | | | | | |
| 2 | Sr. No | Item | Price per Kg | Quantity | Total Cost | |
| 3 | 1 | Potato | 20 | 5 | =D4*E4 | |
| 4 | 2 | Pumpkin | 10 | 2 | | |
| 5 | 3 | Onion | 40 | 6 | | |
| 6 | 4 | Flour | 32 | 10 | | |
| 7 | 5 | Corn Flakes | 178 | 2 | | |
| 8 | 6 | Sugar | 42 | 4 | | |
| 9 | 7 | Rice | 50 | 10 | | |
| 10 | 8 | Mango | 60 | 1 | | |
| 11 | 9 | Apple | 120 | 2 | | |
| 12 | 10 | Plum | 100 | 0.5 | | |
| 13 | | | | | Grand Total | |
| 14 | | | | | | |

| Key Points

- Tables with rows and columns are called spreadsheets.
- Microsoft Excel is a software used to create spreadsheets.
- The AutoCorrect feature in Excel can correct common typing errors as you work.
- The names of the worksheet appears on the Sheet tab.
- The Autosum button present on the Formulas tab can be used for performing addition of all numbers in a range with a single click.
- Every formula in Excel must begin with an equal (=) sign.

MORE ON MS EXCEL 2016

In the previous class, you have read about one of the most popular spreadsheet software, i.e., **MS Excel 2016** and its basic features. Now, let us learn more about the working in MS Excel 2016.

① SELECTING/DESELECTING CELLS OR A RANGE

Most tasks in Excel are performed within a cell. For this, you must select or deselect cells. There are different options in Excel for selecting cells. You can use either the mouse or the keyboard to select cells.

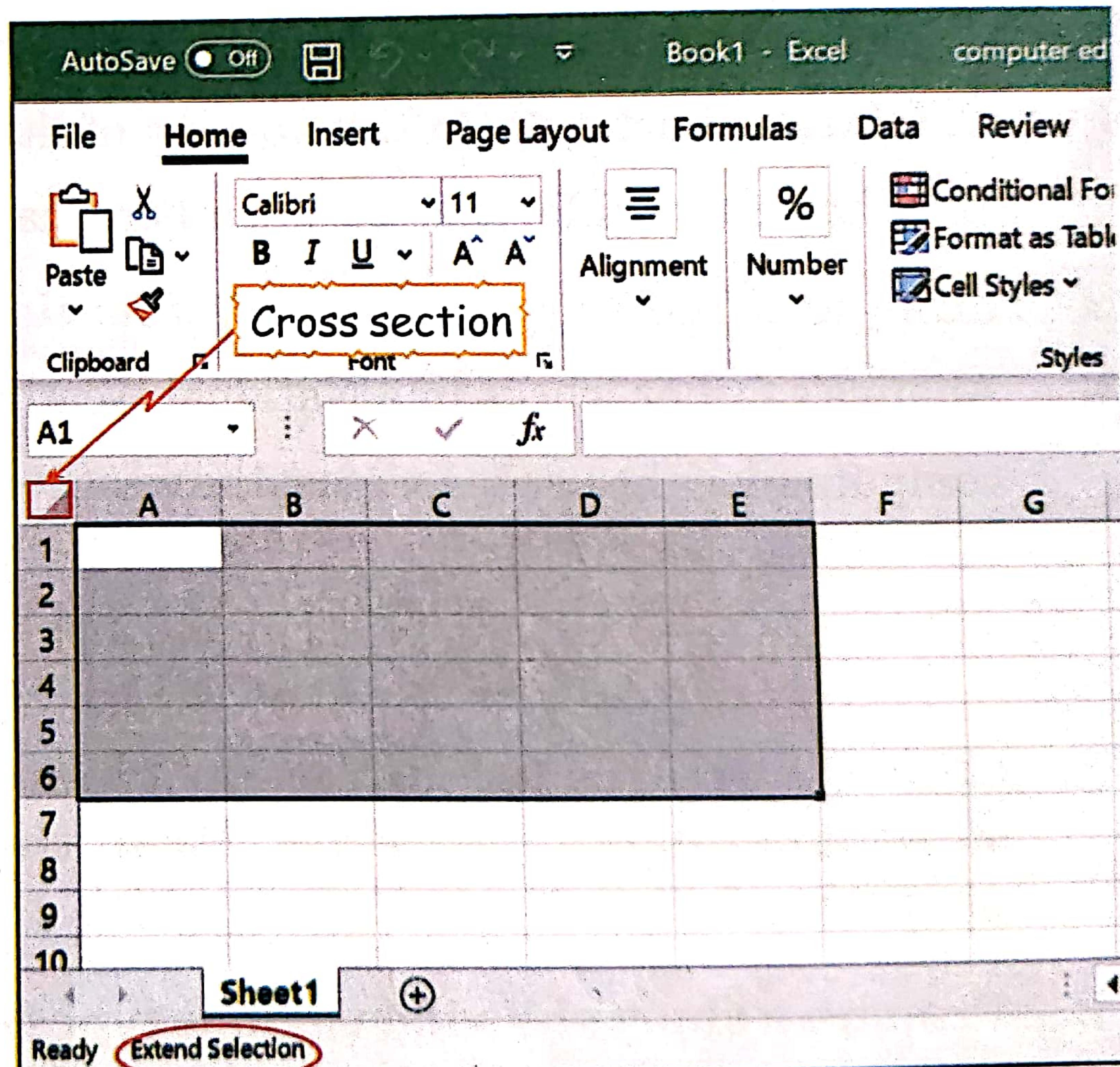
To select a range using the keyboard, press the **Shift key** and move to the lower last cell of the range using the arrow keys.

To select a complete column, just click the **column heading** of that column.

To select a complete row, just click the **row heading** of that row.

To select the entire worksheet, click the **cross section** of row and column heading.

To select a huge range of cells, just click the first cell in the range and press the **F8 key** to activate the **Extend Selection mode**. The Status bar displays the activation of the extend selection mode. (Now, click the last cell in the range).



Note : Press the F8 key again to turn off the extended selection mode.

To select multiple non-adjacent ranges, just select the first range then hold down the **Ctrl key** and keep on selecting another ranges.

⌚ | Keyboard Shortcuts

1. Press Shift + Space bar to select the row in which a cell is active.
2. Press Ctrl + Space bar to select the column in which a cell is active.
3. Press Ctrl + A to select the entire worksheet.

⌨ ENTERING NUMBER AS A TEXT

Most of the times, when you enter a number into a cell, it is saved as a **number** data type and aligned to the right of the cell.

Sometimes, you need to enter numbers with a leading '0', as in case of enrollment no. and telephone area code. In that case, when you enter a number, suppose 07286, then the number will be entered without the leading '0'. So, to preserve the leading '0', you need to convert the number as the text. One, simple way to do it is to add an apostrophe (') before the number, as: '07286. Doing this allows the number to be entered as the text and thus it is aligned to the left of the cell.

⌨ ENTERING SPECIAL NUMBERS, DATE AND TIME

Numbers are important components of an Excel worksheet as they represent different types of data values. Excel provides various number formatting options to represent them in a special manner.

To change the number format, follow the given steps:

- Step-1: Choose the cells with number values which are to be formatted.
- Step-2: Click the **Home** tab → **Format**  command from the **Cells** group. Select the **Format Cells** option from the list to open the **Format Cells** dialog box.
- Step-3: Select the **Number** tab in it and choose the required format from the listed categories. Click the **OK** button.

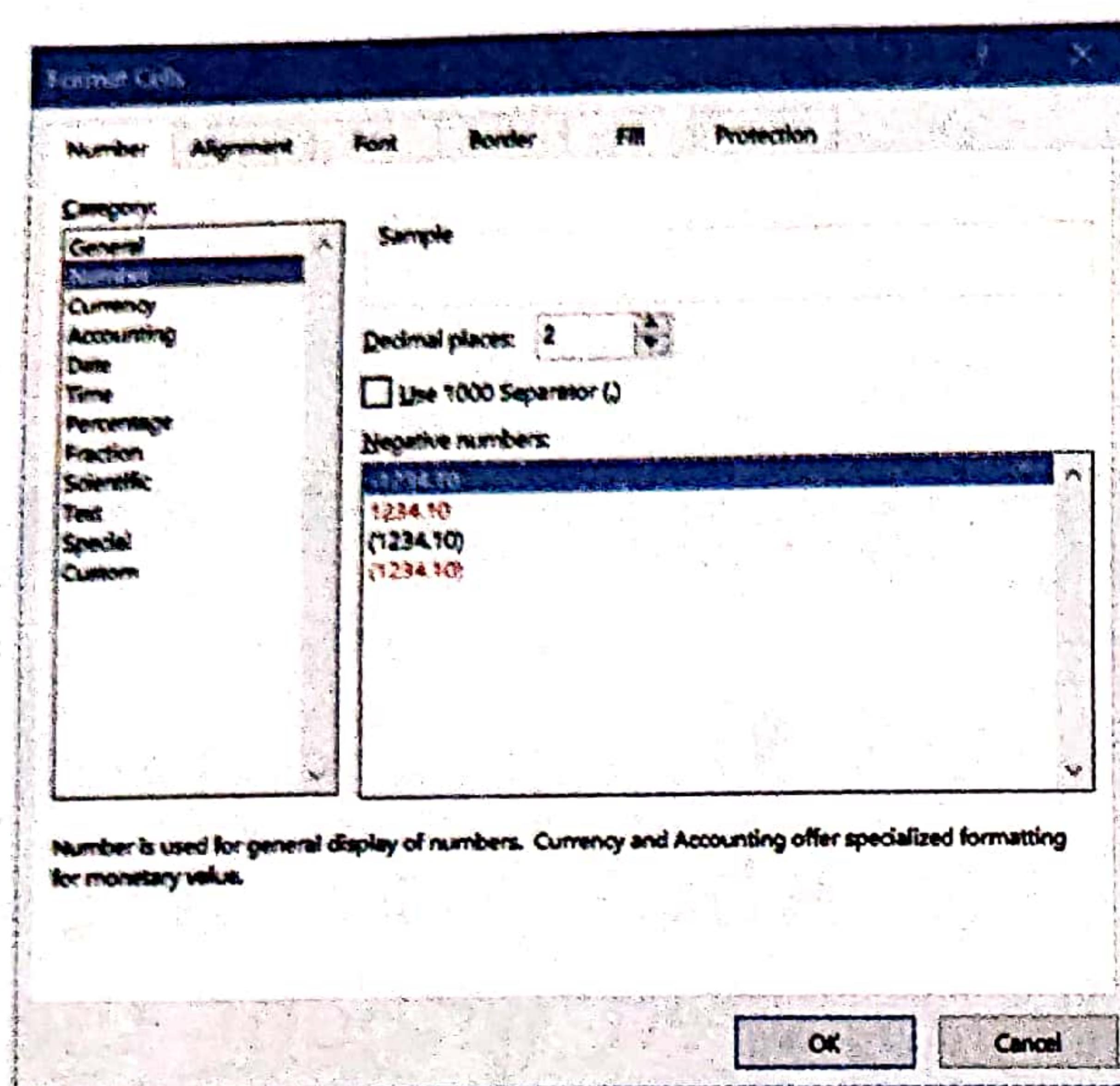
Date and time type of cell data is also entered in the form of numbers which can be further formatted to show it in a specific format.

To change the date and time format, follow the given steps:

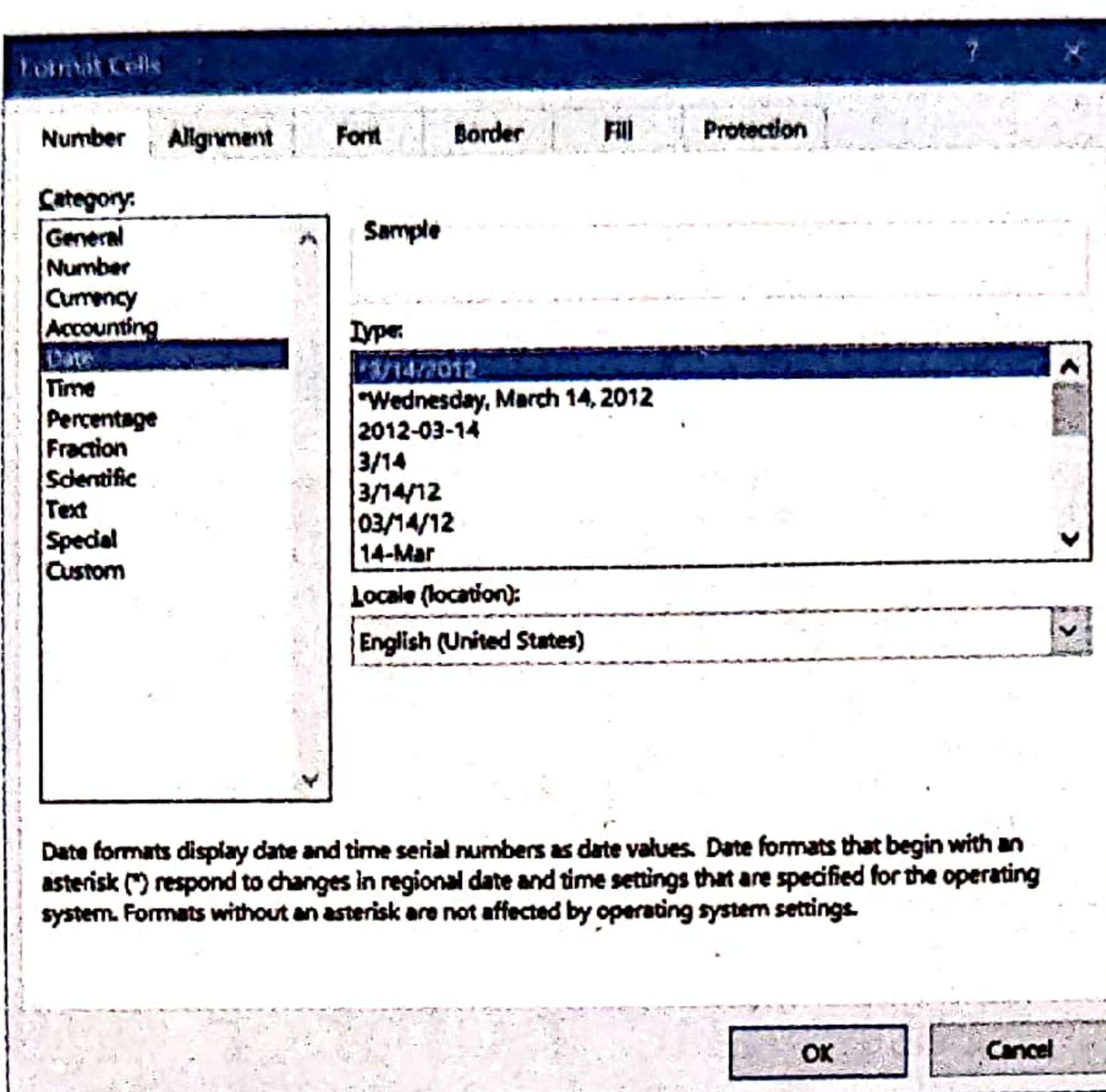
- Step-1: Open the **Format Cells** dialog box and select the **Number** tab.



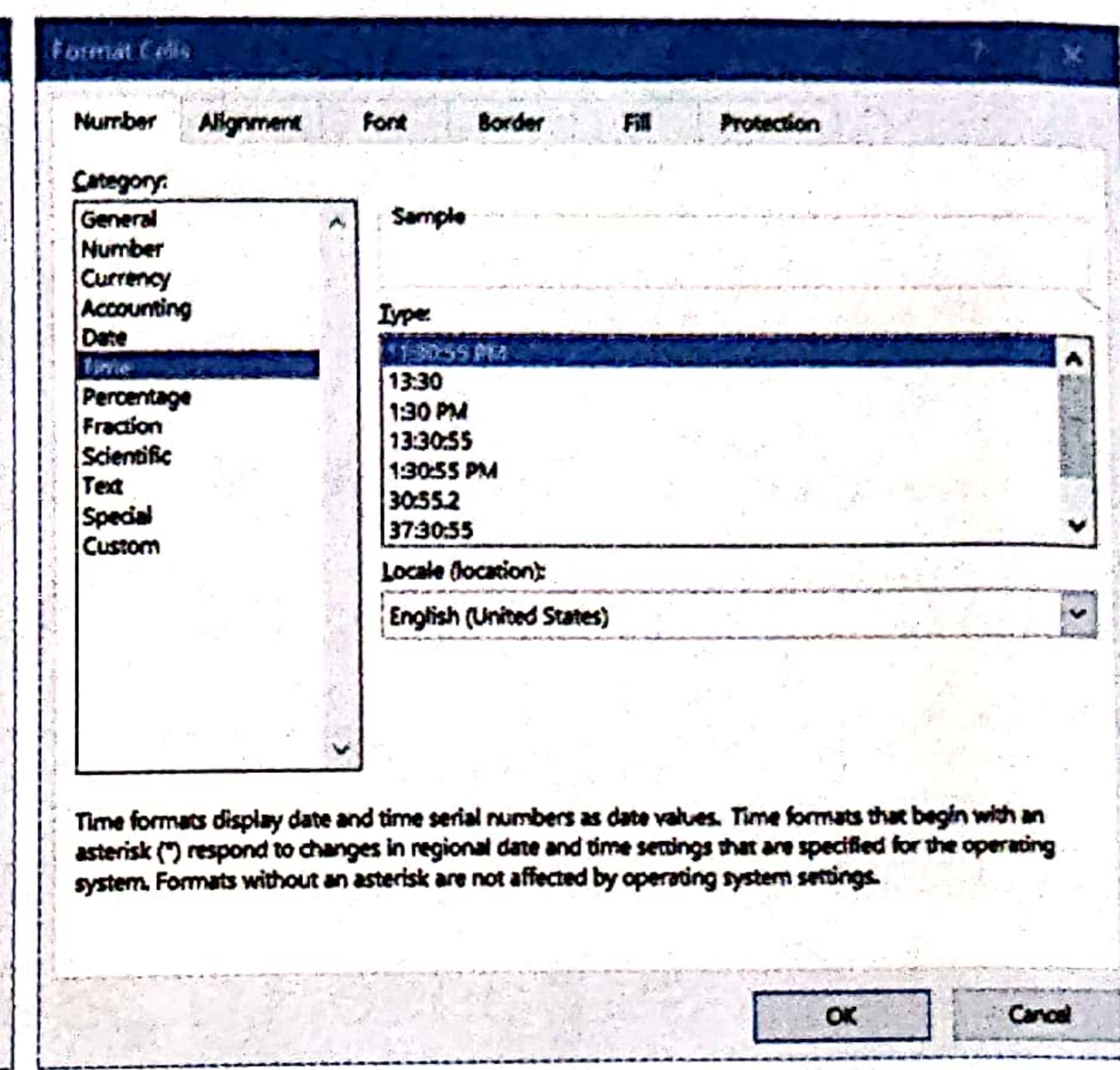
Step-2: Choose the **Date/Time** option from the **Category** list. Choose the required format from the sample list and click the **OK** button. The entered value appears in the selected data format.



number format



date format



time format

Practice Time

Do the following tasks:

1. Open Microsoft Excel 2016.
2. Enter the prime numbers 2, 3, 5, 7, 11, 13, 17, 19 in cells A1, A2, A3, A4, A5, A6, A7, A8 respectively.
3. Replace the contents of the cells A7 and A8 with numbers 23 and 29 respectively.
4. Save it with the name 'Number.xlsx'.

OPERATIONS ON CELLS, COLUMNS AND ROWS

You perform different operations like editing, copying, deleting, moving, resizing, formatting in cells and cell contents. **Editing** means overwriting or modifying cell contents. Let us learn about all these operations.

Copying Cell Contents: Copy And Paste

You copy the contents of a cell to other cells by using the **Copy** and **Paste** commands.

To copy the contents of a cell, follow the given steps:

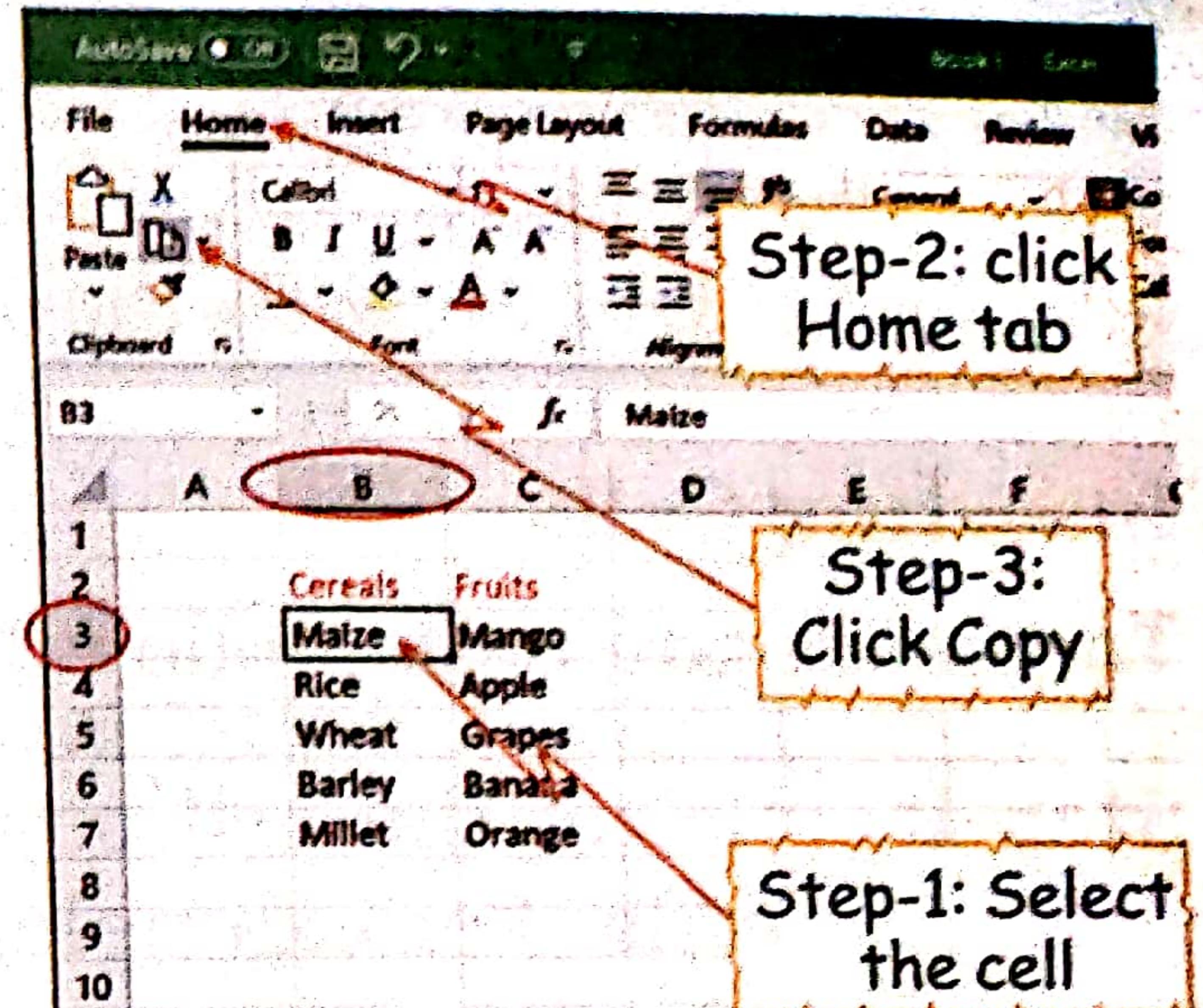
Step-1: Select the cell or a range of cells. For example, B3.

Step-2: Click the **Home** tab on the **Ribbon**.

Step-3: Click the **Copy**  option from the **Clipboard** group.

Step-4: Click the cell where you want the same content. For example, B8.

Step-5: Click the **Paste**  option from the **Clipboard** group.



Moving Cell Contents: Cut And Paste

You move the contents of a cell to some other location using the **Cut** and **Paste** options.

To move the contents of a cell, follow the given steps:

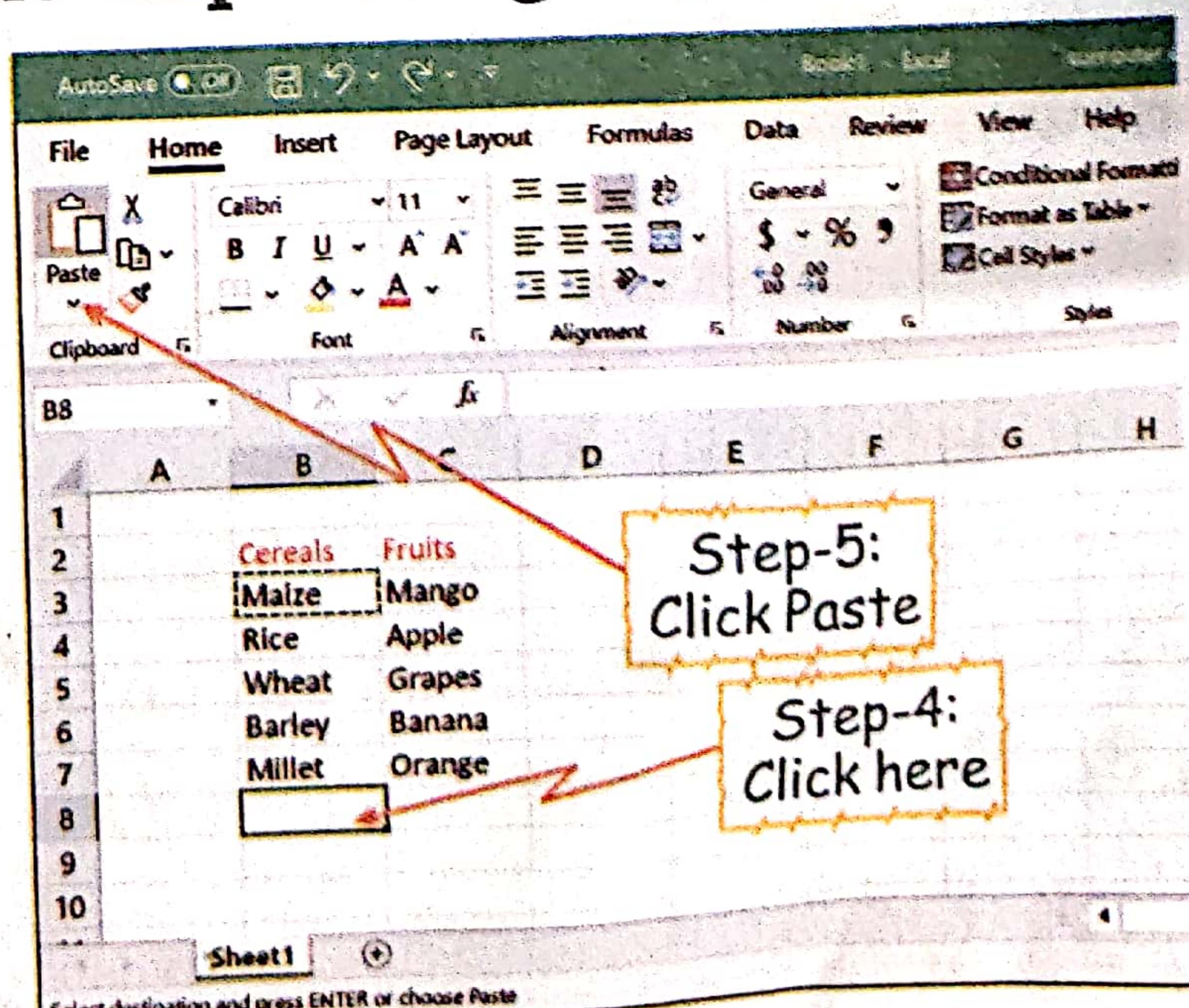
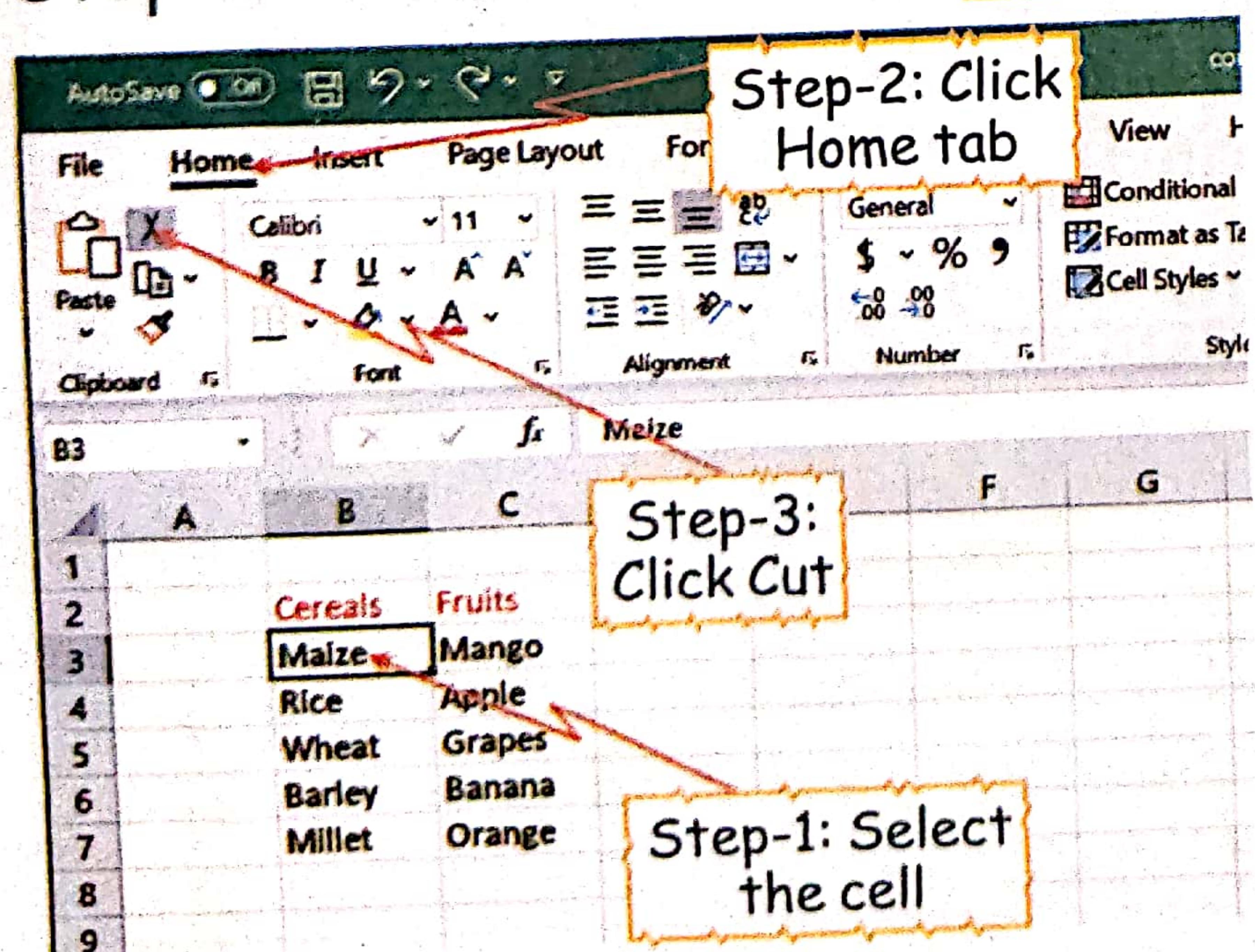
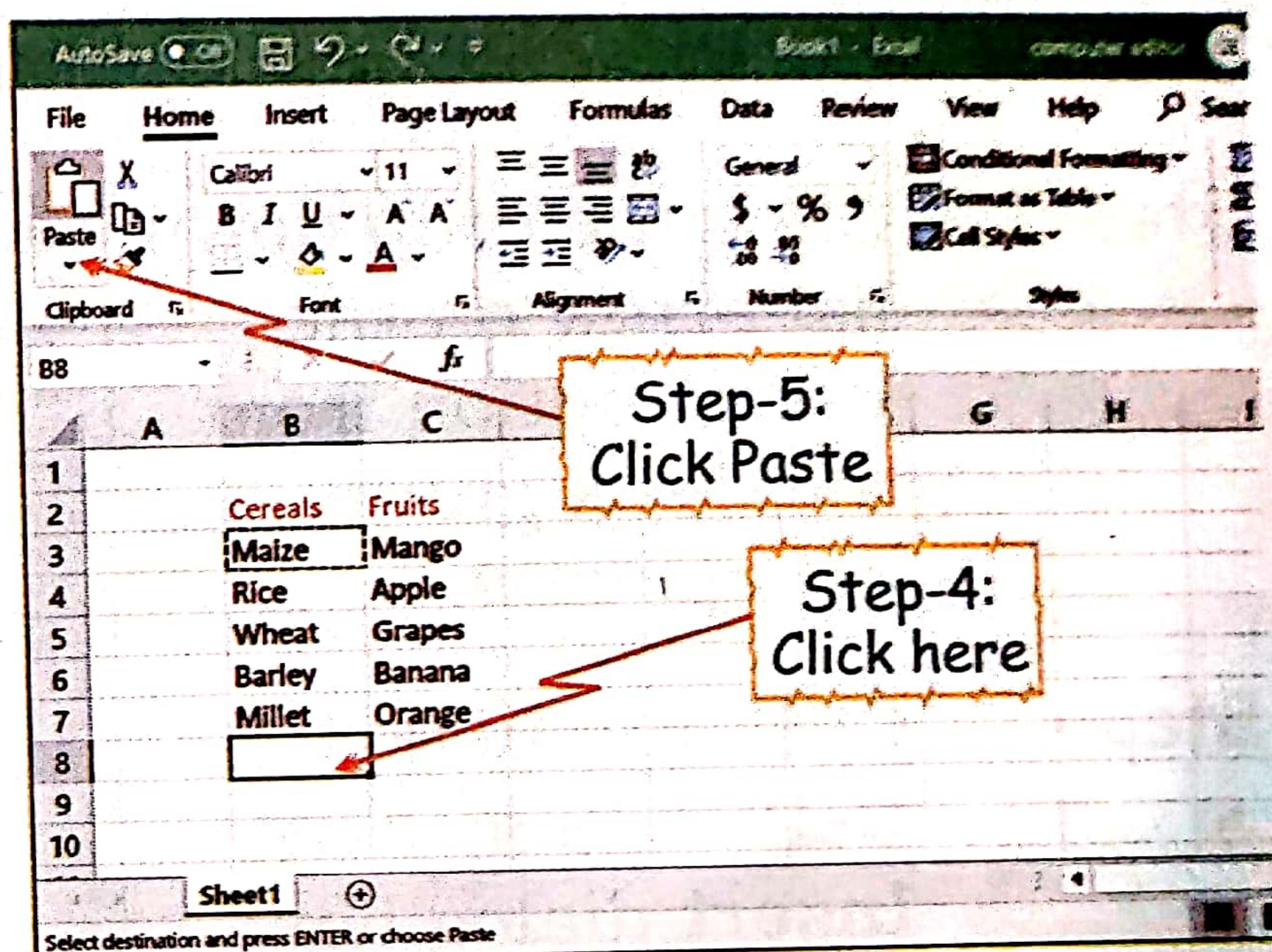
Step-1: Select the cell or a range of cells. For example, B3.

Step-2: Click the **Home** tab on the **Ribbon**.

Step-3: Click the **Cut**  option from the **Clipboard** group.

Step-4: Click the cell where you want to move the content. For example, B8.

Step-5: Click the **Paste**  option from the **Clipboard** group.



✓ | Keyboard Shortcuts

1. Press Ctrl+C to copy the content.
2. Press Ctrl+X to cut the content.
3. Press Ctrl+V to paste the content.

Inserting Cells

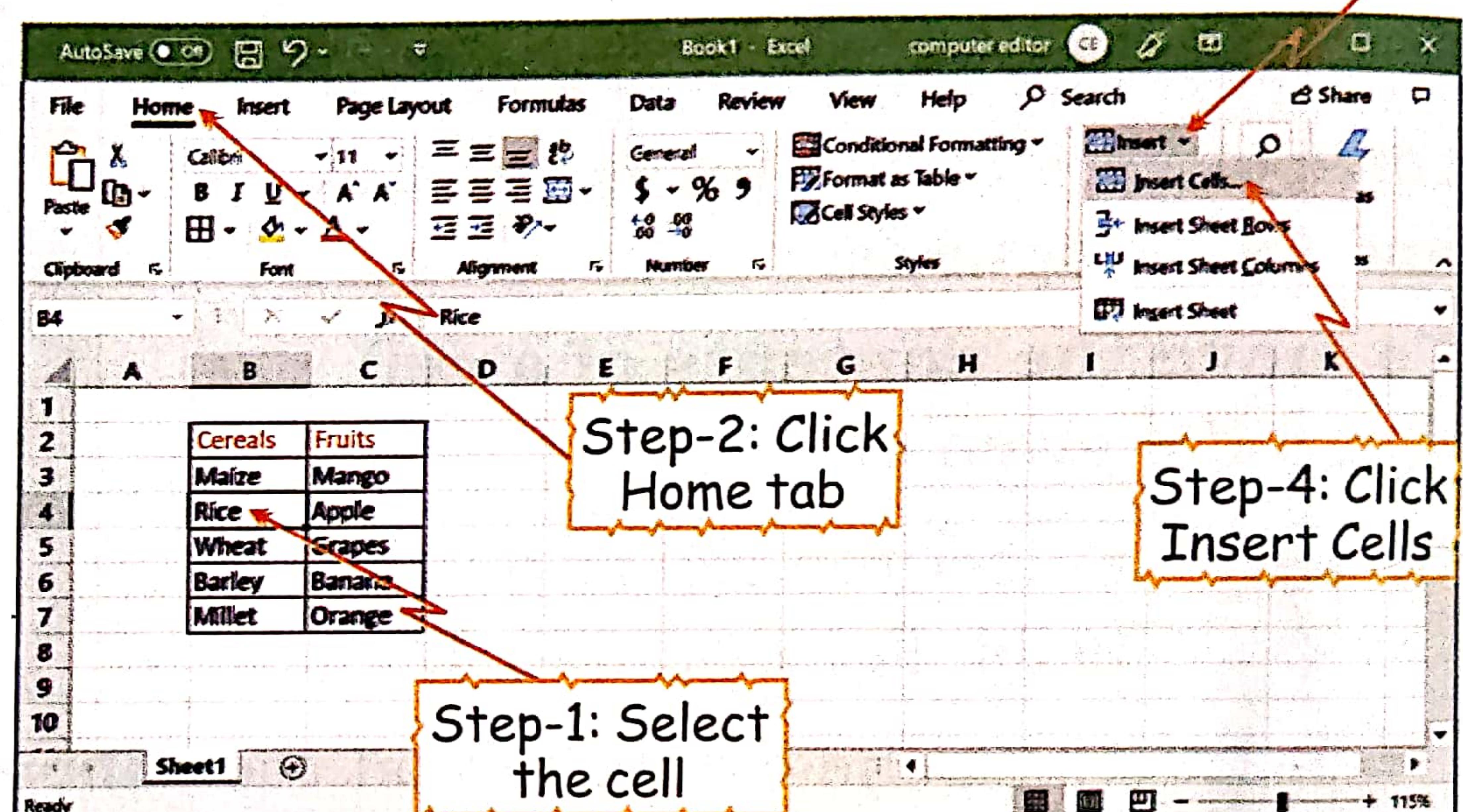
To insert the cells, follow the given steps:

Step-1: Select the cell or a range of cells where you want to insert the cells. For example, B4.

Step-2: Click the **Home** tab on the **Ribbon**.

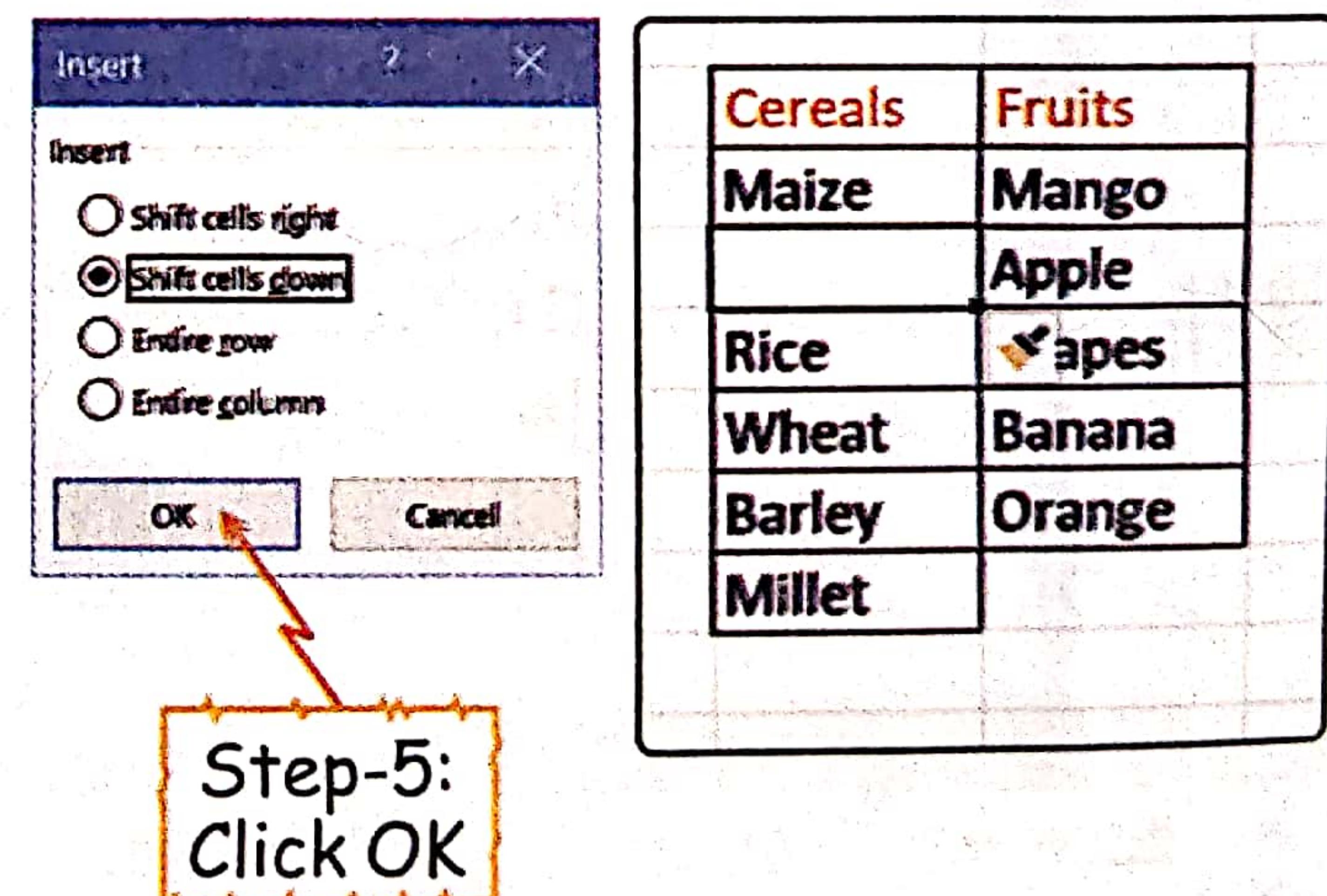
Step-3: Click the drop down list arrow on the **Insert** option from the **Cells** group. A list appears.

Step-4: Click the **Insert Cells** option. The **Insert** dialog box appears.



Step-5: Now, choose the required option from the dialog box. For example, **Shift cells down**. Now, click the **OK** button.

You observe that a cell is inserted above the selected cell and the other cells are shifted down.



Practice Time

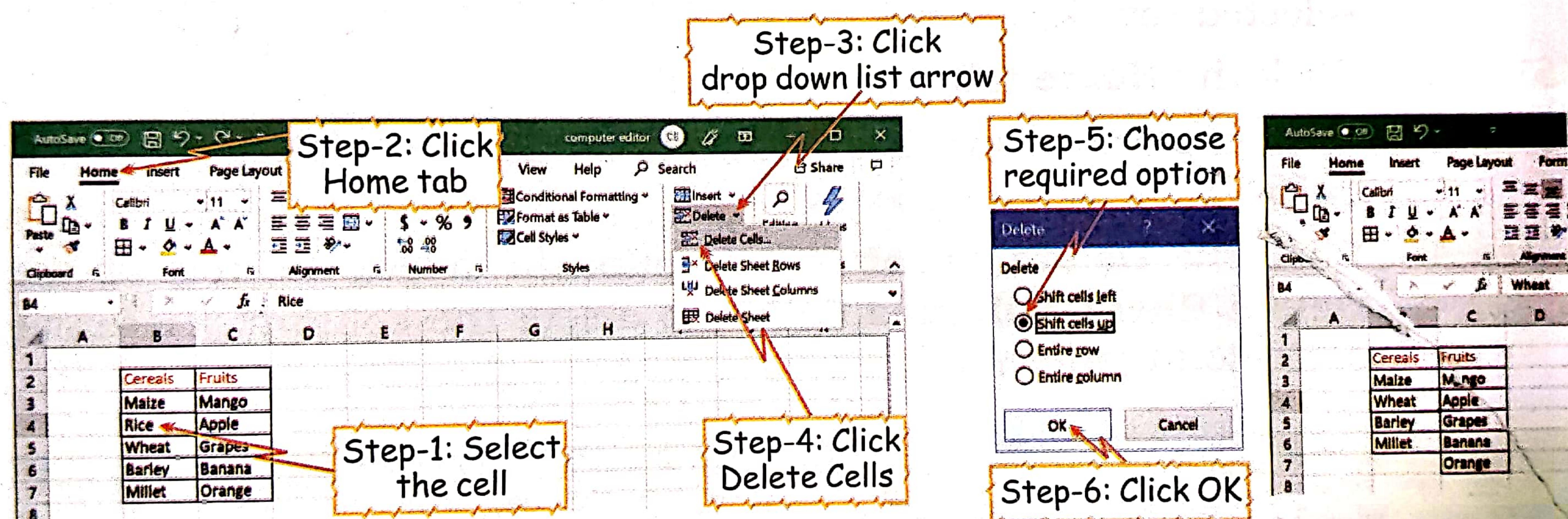
Do the following tasks:

1. Open the worksheet 'Number'.
2. Insert a cell between A3 and A4.
3. Enter value 31 in the new cell.
4. Save it.

Deleting Cells

To delete the cells, follow the given steps:

- Step-1: Select the cell or a range of cells you want to delete.
- Step-2: Click the **Home** tab on the **Ribbon**.
- Step-3: Click the drop down list arrow on the **Delete**  command from the **Cells** group. A list appears.
- Step-4: Click the **Delete Cells** option from the list. The **Delete** dialog box appears.
- Step-5: Choose the required option from the dialog box.
- Step-6: Click the **OK** button.



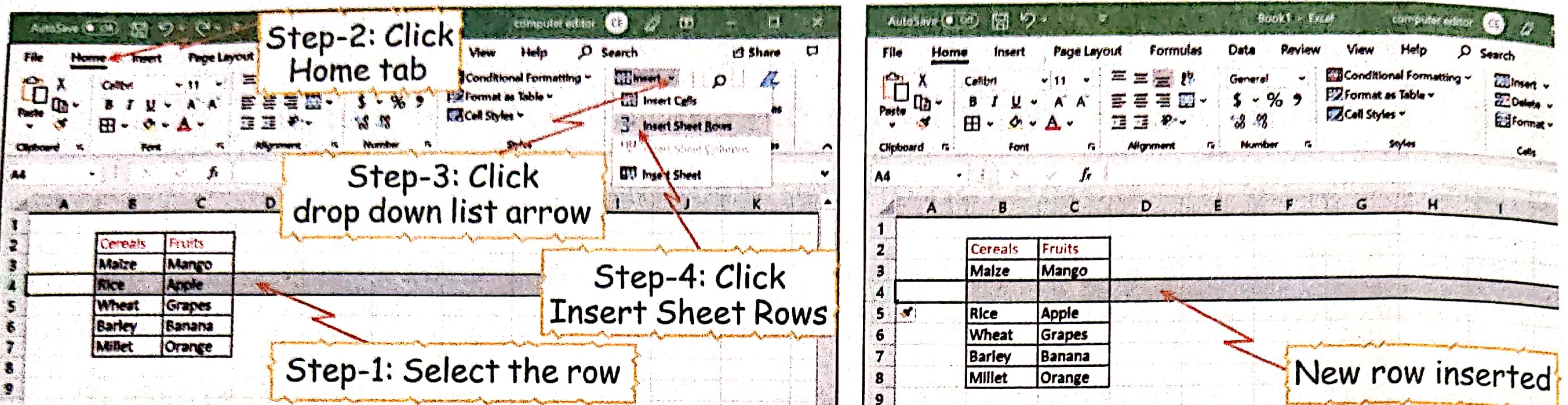
Inserting Rows/Columns

To insert rows/columns in a worksheet, follow the given steps:

- Step-1: Select the row/column adjacent to which you wish to insert a new row/column. (Here, we have selected row 4.)
- Step-2: Click the **Home** tab on the **Ribbon**.
- Step-3: Click the drop down list arrow on the **Insert**  command from the **Cells** group. A list appears.
- Step-4: Click the **Insert Sheet Rows** option to insert a new row or the **Insert Sheet Columns** option to insert a new column. (Here, we are inserting a new row.)



A new row gets inserted above the selected row.



Deleting Rows/Columns

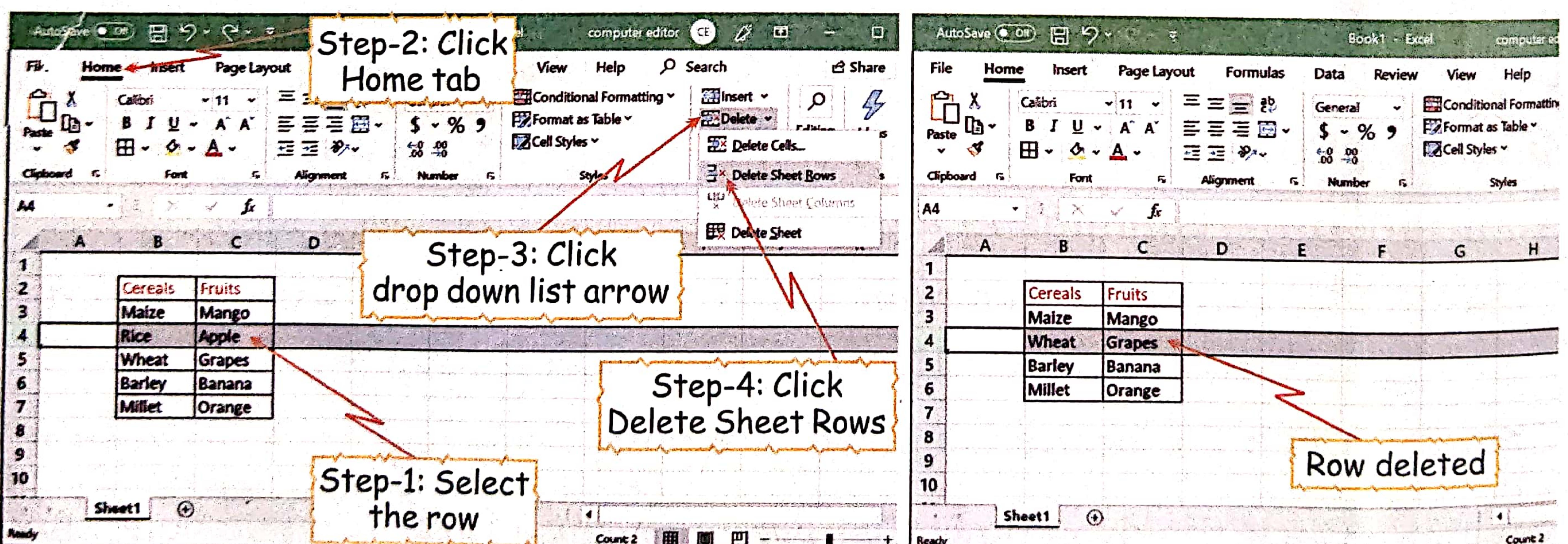
To delete the rows/columns in a worksheet, follow the given steps:

- Step-1:** Select the row/column you want to delete. (Here, we have selected row 4.)

Step-2: Click the **Home** tab on the **Ribbon**.

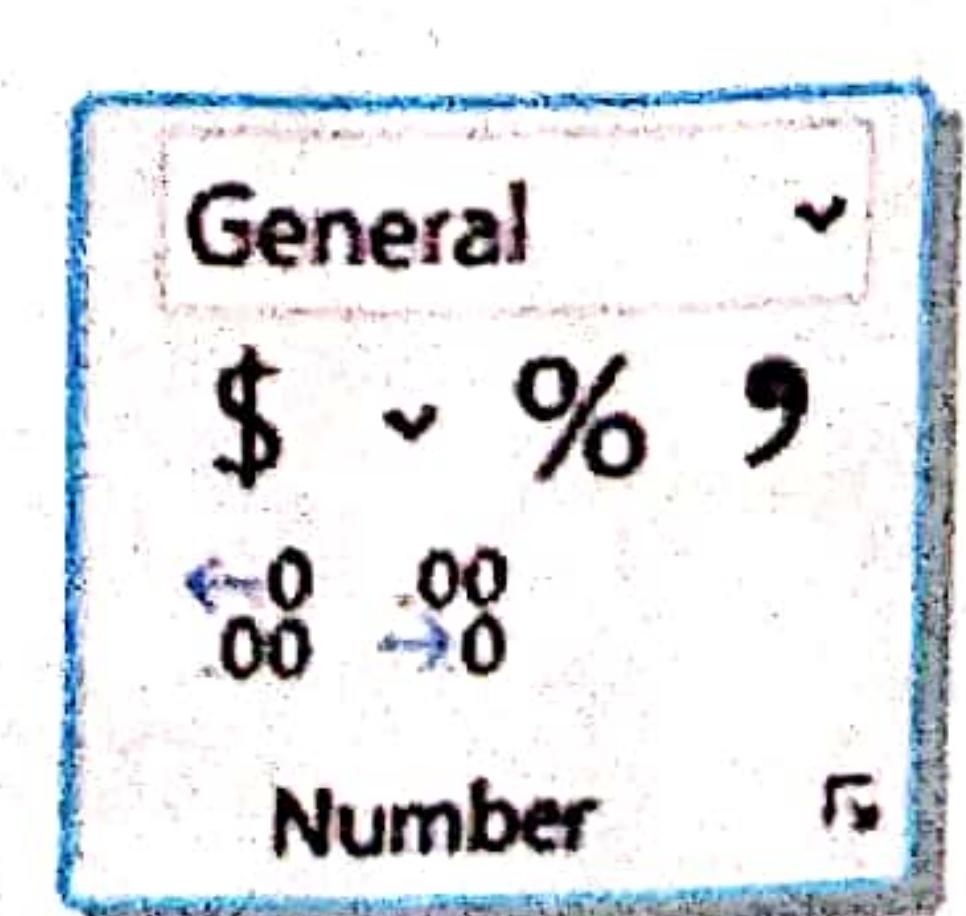
Step-3: Click the drop down list arrow on the **Delete**  from the **Cells** group. A list appears.

Step-4: Click the **Delete Sheet Rows** option to delete the row or the **Delete Sheet Columns** option to delete the column. (Here, we are deleting the row 4.) The selected row gets deleted.



Formatting Numbers

To format numbers, select the cells and use the options in the Number group under the Home tab.



Number group in the Home tab

APPLYING BORDERS

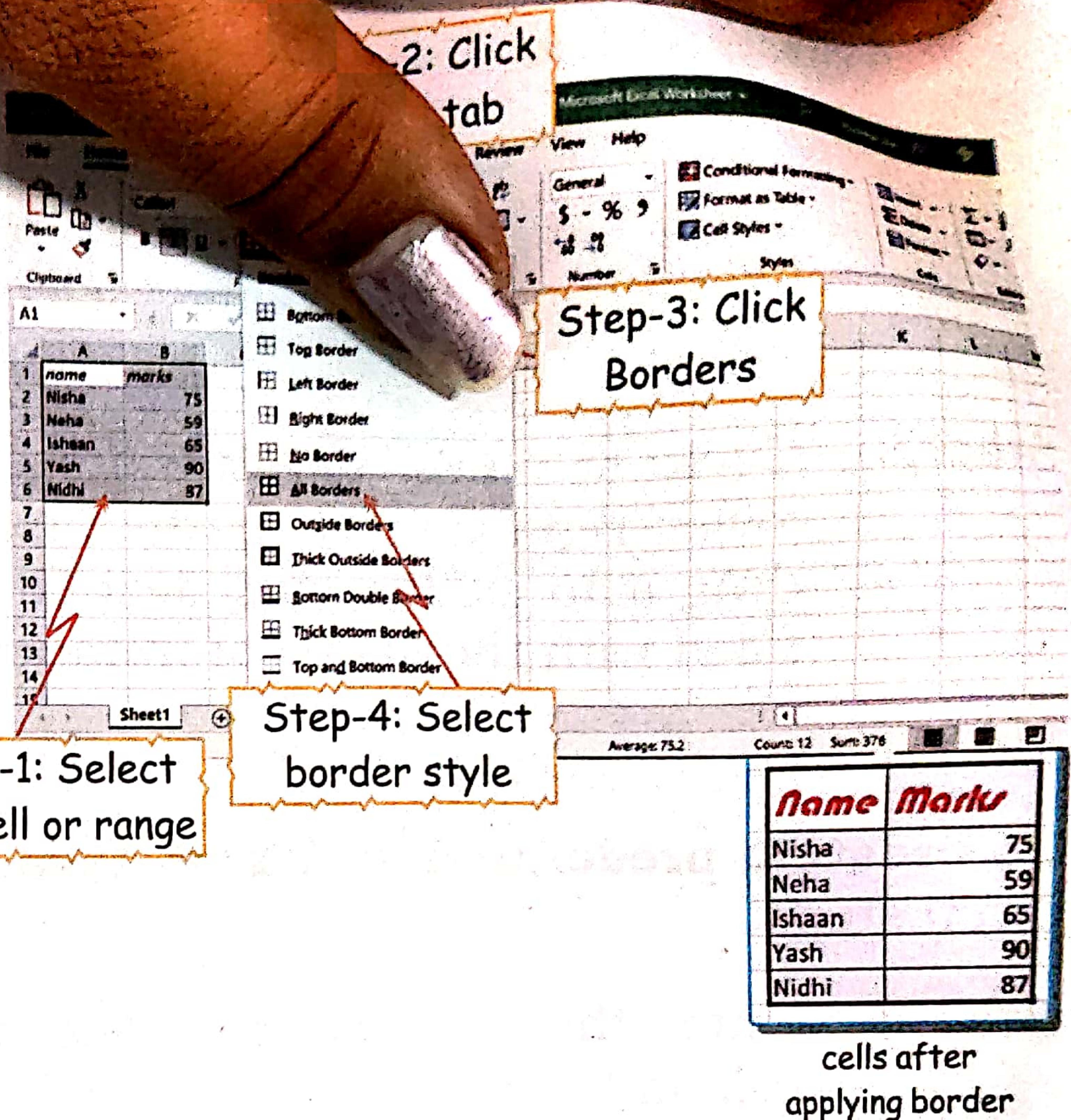
When you want to apply borders to a cell or a range of cells, follow the given steps:

Step-1 Select a cell or a range of cells.

Step-2 Click the **Home** tab on the **Ribbon**.

Step-3 Click the **Borders** option  from the **Font** group.

Step-4 Choose the border style from the list.



Practice Time

Create and format the worksheet given below.

Follow the given steps:

Step-1: Open MS-Excel 2016 and type the data as shown in the worksheet.

| | A | B | C | D | E |
|---|-----------------|-------------|----------------|--------------|----------------|
| 1 | Roll No. | Name | English | Maths | Science |
| 2 | | 1 Vishal | | | |
| 3 | | 2 Nikhil | | | |
| 4 | | 3 Prashant | | | |

Step-2: Insert a new column after science.

Step-3: Select all the cells in which data is entered.

AUTO FILL

The **Auto Fill** feature is used to enter a predefined series of data, such as text or numbers in a worksheet, quickly. You need to specify the first two values of the series in order to determine the increment value of the series.

For example: 1, 2, 3, 4,

1, 3, 5, 7,

You can create both numeric data series and series of dates, weekdays or months.

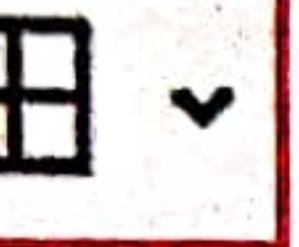


APPLYING BORDERS

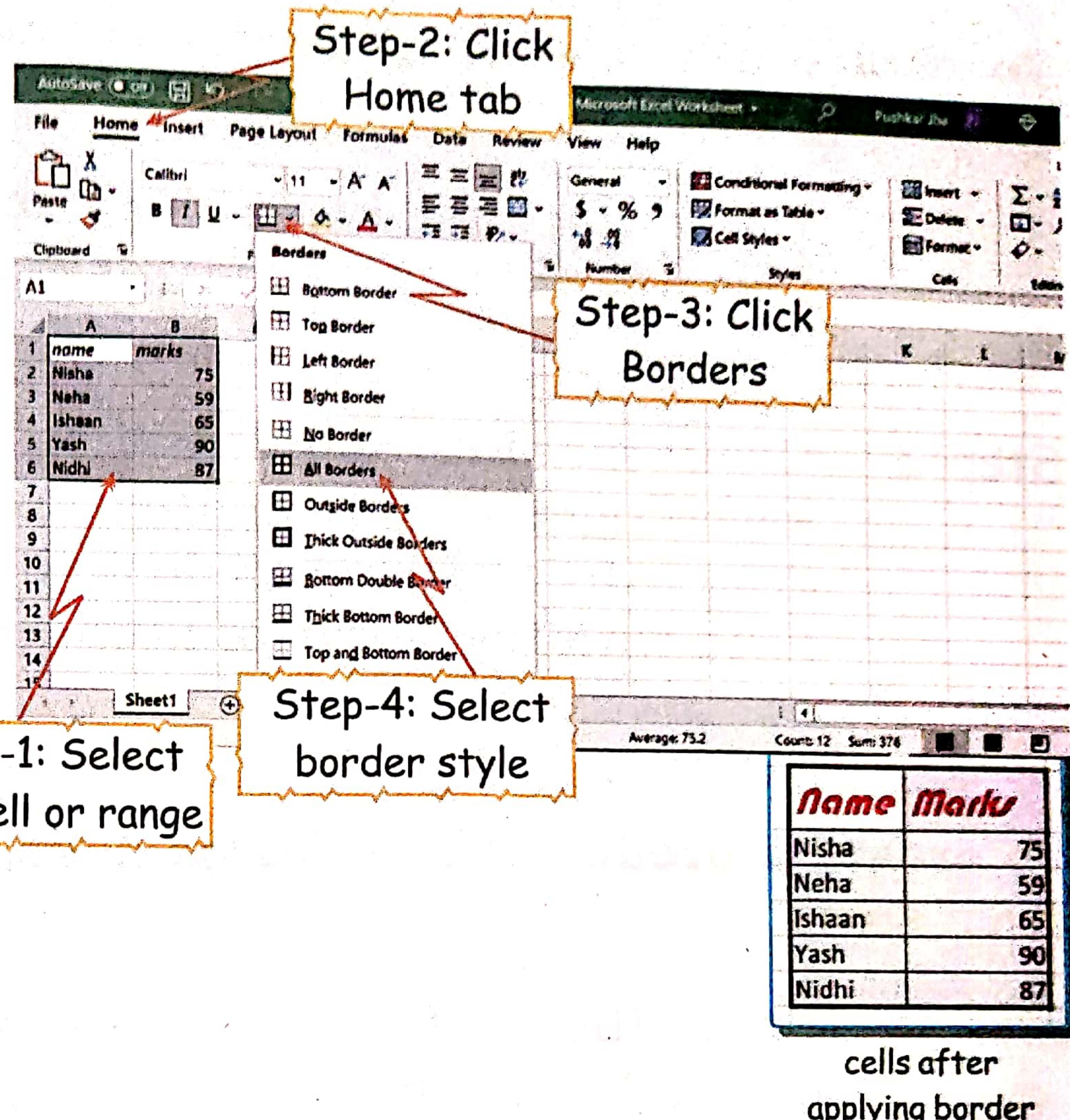
When you want to apply borders to a cell or a range of cells, follow the given steps:

Step-1 Select a cell or a range of cells.

Step-2 Click the **Home** tab on the **Ribbon**.

Step-3 Click the **Borders** option  from the **Font** group.

Step-4 Choose the border style from the list.



Practice Time

Create and format the worksheet given below.

Follow the given steps:

Step-1: Open MS-Excel 2016 and type the data as shown in the worksheet.

| | A | B | C | D | E |
|---|----------|------------|---------|-------|---------|
| 1 | Roll No. | Name | English | Maths | Science |
| 2 | | 1 Vishal | | | |
| 3 | | 2 Nikhil | | | |
| 4 | | 3 Prashant | | | |

Step-2: Insert a new column after science.

Step-3: Select all the cells in which data is entered.

AUTO FILL

The **Auto Fill** feature is used to enter a predefined series of data, such as text or numbers in a worksheet, quickly. You need to specify the first two values of the series in order to determine the increment value of the series.

For example: 1, 2, 3, 4,

1, 3, 5, 7,

You can create both numeric data series and series of dates, weekdays or months.



To create numeric data series, follow the given steps:

Step-1: Enter the first two values of data into two adjacent cells and select both the cells.

Step-2: Click the **Fill handle** present on the lower right corner of the selected cells, drag it to enclose the desired area to be filled with the series of numbers.

A screenshot of Microsoft Excel showing a table with columns A through D and rows 1 through 10. Cell A1 contains '1'. Cells B1 through B10 are highlighted with a light gray background, indicating they are selected. The fill handle is visible at the bottom-right corner of cell B2. The status bar at the bottom says 'Ready'.

| A | B | C | D |
|---|----|---|---|
| 1 | 2 | | |
| 3 | 4 | | |
| 5 | 6 | | |
| 7 | 8 | | |
| 9 | 10 | | |
| | | | |
| | | | |
| | | | |
| | | | |

series entered

To create a predefined series of days, follow the given steps:

Step-1: Enter the first value of the series in a cell and select it.

Step-2: Click the **Fill handle** and drag it to enclose the desired area to fill with the series of data.

A screenshot of Microsoft Excel showing a table with columns A through D and rows 1 through 8. Cell A1 contains 'Sunday'. Cells A2 through A8 are highlighted with a light gray background, indicating they are selected. The fill handle is visible at the bottom-right corner of cell A2. The status bar at the bottom says 'Ready'.

| A | B | C | D |
|-----------|---|---|---|
| Sunday | | | |
| Monday | | | |
| Tuesday | | | |
| Wednesday | | | |
| Thursday | | | |
| Friday | | | |
| Saturday | | | |
| | | | |
| | | | |
| | | | |

days entered

FLASH FILL

The **Flash Fill** feature in MS Excel provides the facility to enter data in a particular pattern automatically. It is a special tool that analyses and identifies the pattern of data entry and automatically enters the remaining data in the respective series/pattern.

Let us see this example to understand the **working of the Flash Fill**.

Step-1: Enter the data in two columns as shown in the picture.

Step-2: Type Sec A in the cell B2 and press the **Enter** key.

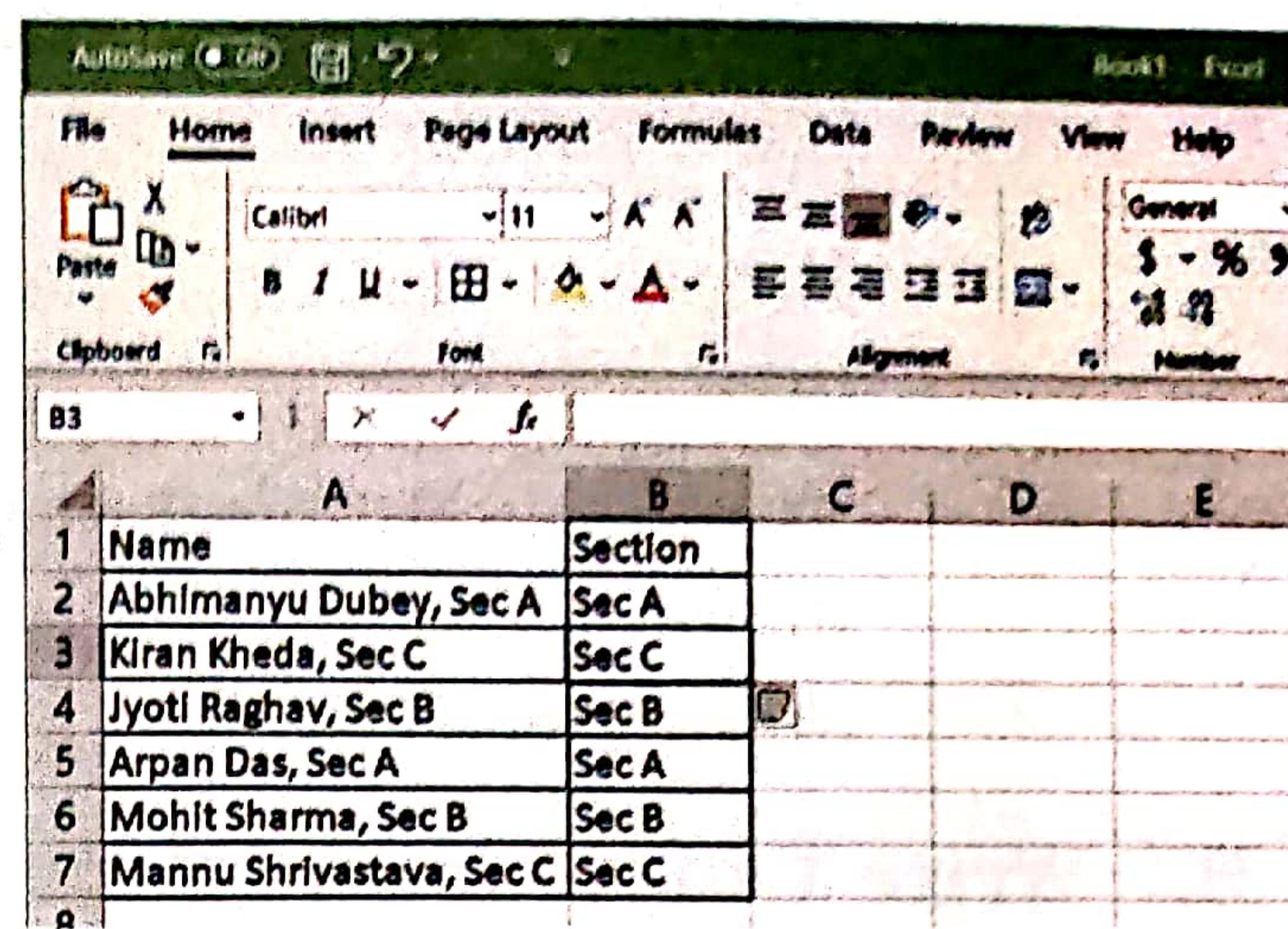
A screenshot of Microsoft Excel showing a table with columns A through H and rows 1 through 10. The table has two columns of data: 'Name' and 'Section'. The 'Section' column contains 'Sec A', 'Sec C', 'Sec B', 'Sec A', 'Sec B', 'Sec C', and 'Sec C'. The 'Name' column lists various student names. The 'Section' column from row 2 to 7 is selected. Step 1: Enter data is indicated by a callout pointing to cell B2. Step 2: Type Sec A → Enter is indicated by a callout pointing to the keyboard. Step 3: Click Fill is indicated by a callout pointing to the fill handle at the bottom-right corner of the selected range. Step 4: Select Flash Fill is indicated by a callout pointing to the 'Format' button in the ribbon, which has a small arrow pointing to the 'Flash Fill' option in the dropdown menu.

| A | B | C | D | E | F | G | H |
|----------------------------|---------|---|---|---|---|---|---|
| 1 Name | Section | | | | | | |
| 2 Abhimanyu Dubey, Sec A | Sec A | | | | | | |
| 3 Kiran Kheda, Sec C | | | | | | | |
| 4 Jyoti Raghav, Sec B | | | | | | | |
| 5 Arpan Das, Sec A | | | | | | | |
| 6 Mohit Sharma, Sec B | | | | | | | |
| 7 Mannu Shrivastava, Sec C | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |



Step-3: Click the **Fill**  command in the **Editing** group of the **Home** tab. A drop-down list appears.

Step-4: Select the **Flash Fill**  option. The sections of the remaining students will be entered automatically.



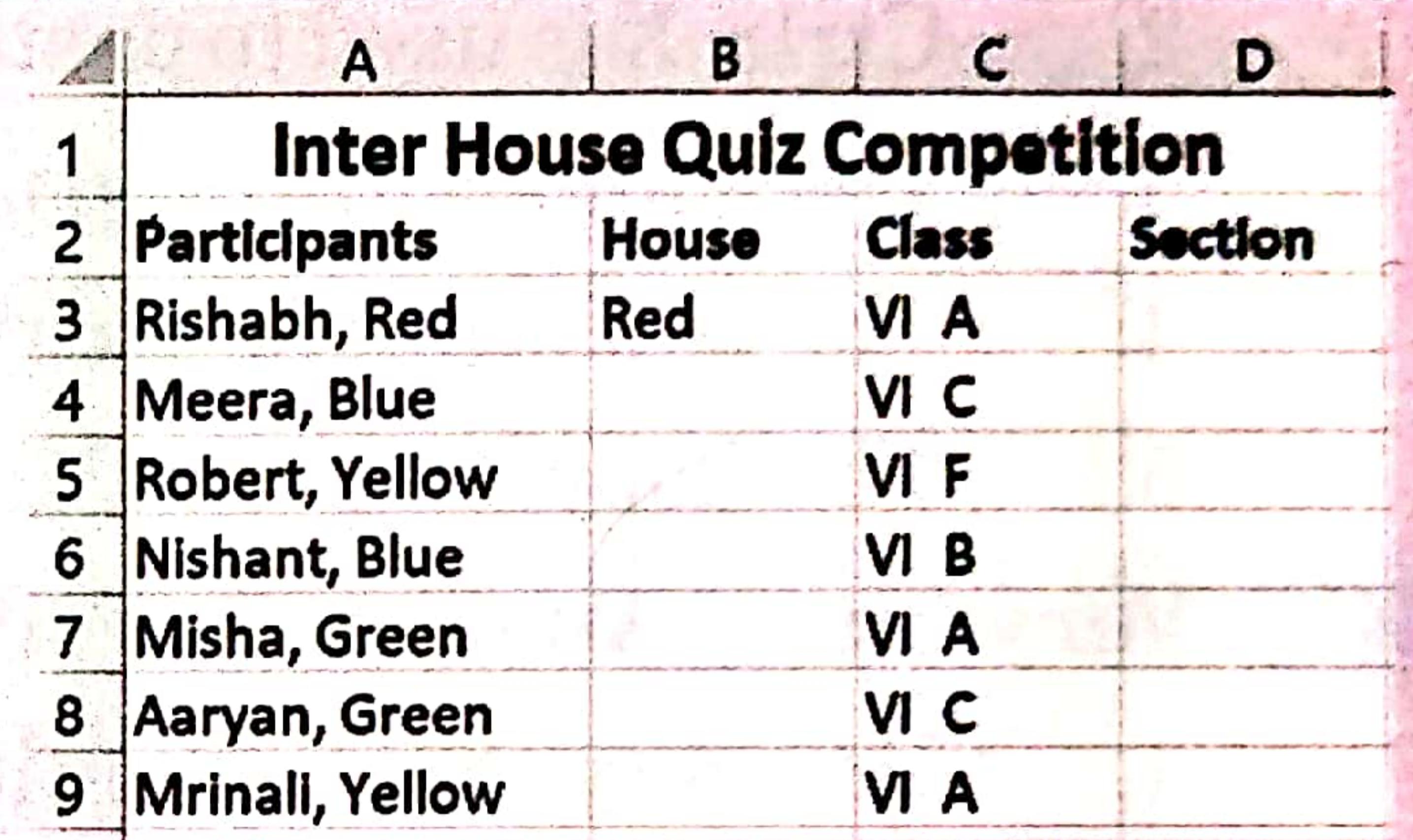
A screenshot of Microsoft Excel showing a table with columns A through E. Column A contains student names, and column B contains their respective sections. The formula bar shows "B3: Flash Fill". The "Home" tab is selected, and the "Editing" group is visible. A dropdown menu for "Flash Fill" is open, with the "Next" option highlighted.

| | A | B | C | D | E |
|---|--------------------------|---------|---|---|---|
| 1 | Name | Section | | | |
| 2 | Abhilanyu Dubey, Sec A | Sec A | | | |
| 3 | Kiran Kheda, Sec C | Sec C | | | |
| 4 | Jyoti Raghav, Sec B | Sec B | | | |
| 5 | Arpan Das, Sec A | Sec A | | | |
| 6 | Mohit Sharma, Sec B | Sec B | | | |
| 7 | Mannu Shrivastava, Sec C | Sec C | | | |

Practice Time

Create a worksheet as shown.

1. Enter the data in the House and Section column using the Flash Fill.
2. Insert a column after the House column for Roll no. Enter the roll numbers in that column.
3. Now, cut the Roll no. column and paste it after the Section column.



A screenshot of Microsoft Excel showing a table with columns A through D. The table has a header row and 9 data rows. The header row is labeled "Inter House Quiz Competition". The data rows list participants, their house, class, and section. The "House" column is the second column, and the "Section" column is the fourth column.

| | A | B | C | D |
|---|----------------|-------|-------|---------|
| 1 | | | | |
| 2 | Participants | House | Class | Section |
| 3 | Rishabh, Red | Red | VI A | |
| 4 | Meera, Blue | | VI C | |
| 5 | Robert, Yellow | | VI F | |
| 6 | Nishant, Blue | | VI B | |
| 7 | Misha, Green | | VI A | |
| 8 | Aaryan, Green | | VI C | |
| 9 | Mrinal, Yellow | | VI A | |

Key Points

- MS Excel provides the facility to change the format of number, date and time.
- To treat a number as a text, we add an apostrophe (') before the number.
- The Insert option is used to insert a cell, row and column in a worksheet.
- The Delete option is used to delete cell(s), row(s) and column(s) in a worksheet.
- The Auto Fill feature is used to enter a predefined series of data in a worksheet quickly.
- The Flash Fill feature in MS Excel provides the facility to enter data in a particular pattern automatically.

EXERCISES

A. Multiple Choice Questions

1. The feature is used to enter a predefined series of data.
(a) Flash Fill (b) AutoFill (c) both (a) and (b)
2. Number data is aligned to the of the cell.
(a) left (b) right (c) centre

