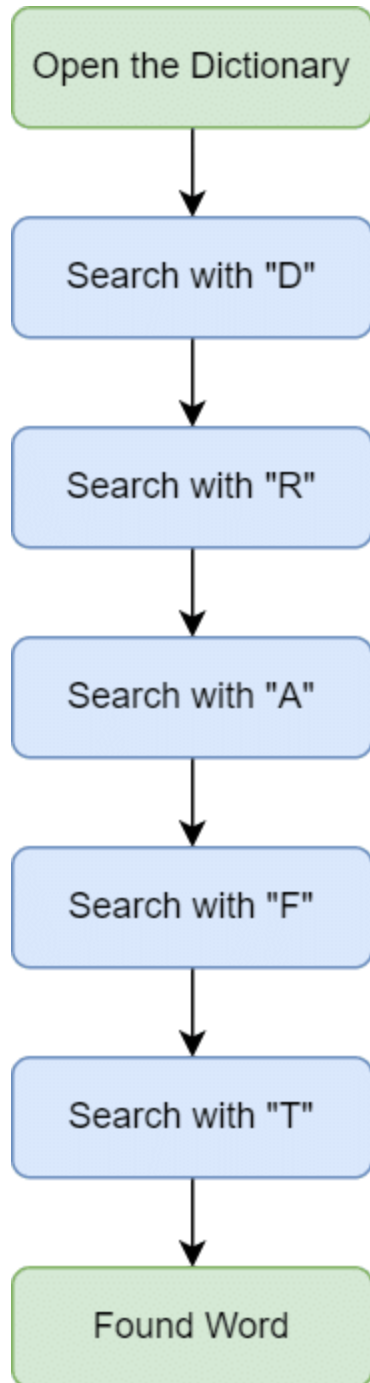


# Flowchart

## Searching for a word in the dictionary

While reading a book in a school library, Mukesh comes across a word that says 'draft' whose meaning he does not know. So how does he find out the meaning of this word?

The simple answer to this is that Mukesh searches for the meaning of the word 'draft' in a dictionary. However, there are many words in a dictionary. So how does he find that word 'draft' in the dictionary?



To achieve this, he first needs to find the **dictionary section with the first letter of the word, which in this case is 'd.'** Then, within the list of words starting the first letter 'd', he needs to **find the section having the second letter of the word 'r'.** He needs to do this

operation again with the third, fourth & fifth letters until he finally reaches the word 'draft' in the dictionary & then finds its meaning.

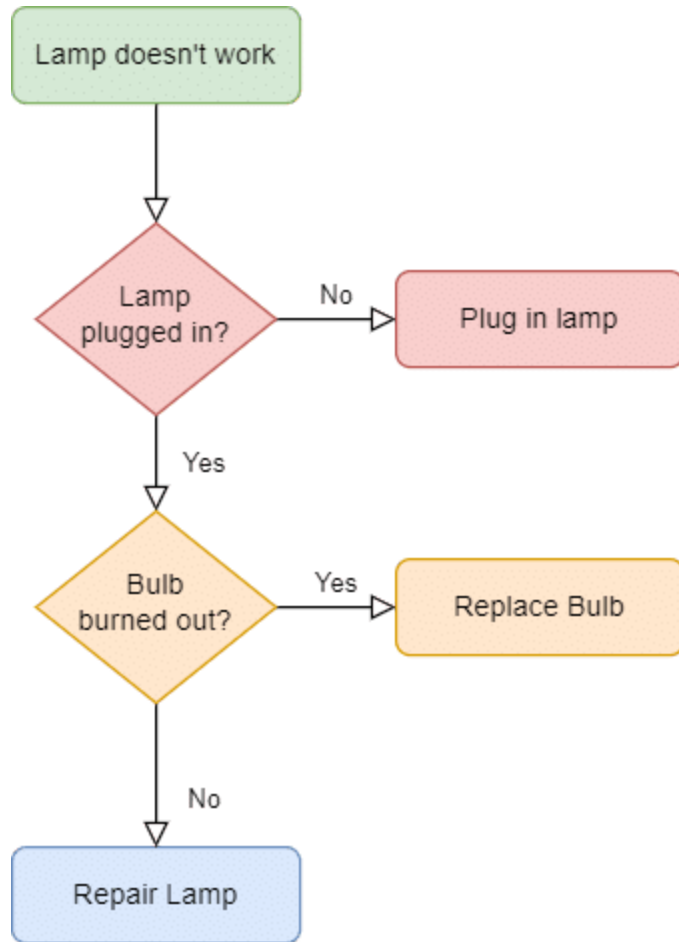
In other words, Mukesh needs to follow a set of steps to complete the task of finding the meaning of a word.

Similarly, before writing a program code for a given problem in computer science, it is essential to devise a set of steps to be followed to solve the problem successfully. This set of steps is called an algorithm.

An **algorithm** is defined as the step-by-step plan to solve the problem for a given problem statement.

## What is a Flowchart?

A flowchart is a diagrammatic representation of the step-by-step plan to be followed for solving a task/problem statement.



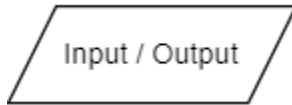
This diagrammatic representation is made up of shapes like boxes, diamonds, parallelograms, circles, ellipses connected by arrows. Each shape acts as a step in the solution, and the arrows represent the direction of flow among the steps.

## Symbols used in a flowchart

**Terminal:** Indicates start / stop / halt



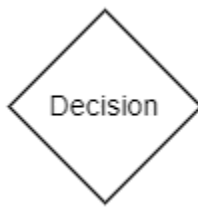
**Input/Output:** Indicates instructions that either take inputs or display output.



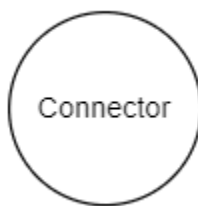
**Processing:** Indicates instructions that represent computation.



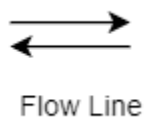
**Decision:** Indicates decision-based operations such as Yes/No, or true/false.



**Connectors:** Complex flowcharts that span over more than a page are connected via a connector.



**Flow lines:** Indicates the direction of flow of sequence in a flowchart.



# Benefits of using a flowchart

Some of the benefits of using a flowchart are:

It helps to explain your approach to solving a problem.

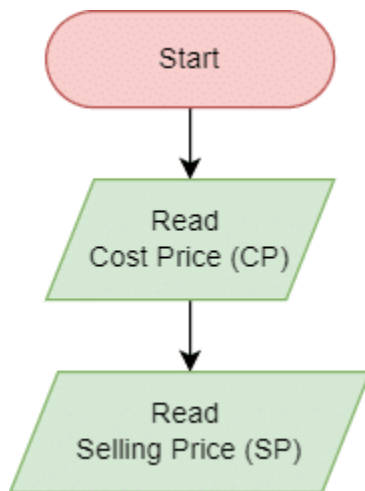
The flowchart helps in bringing visual clarity to a problem, so it helps in practical problem-solving.

Once you build a flowchart, this remains as documentation of the code you are about to build. If you need to come back and understand the code, you can refer to the flow chart.

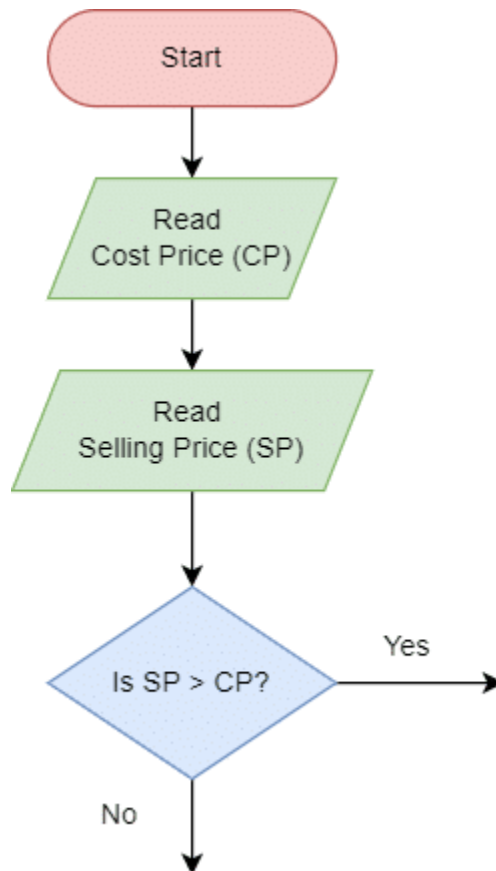
## Activity 1: Profit & Loss

Let's create a flowchart that **takes two inputs**, namely cost price, and selling price. It then **calculates profit or loss depending on the values and prints the same**.

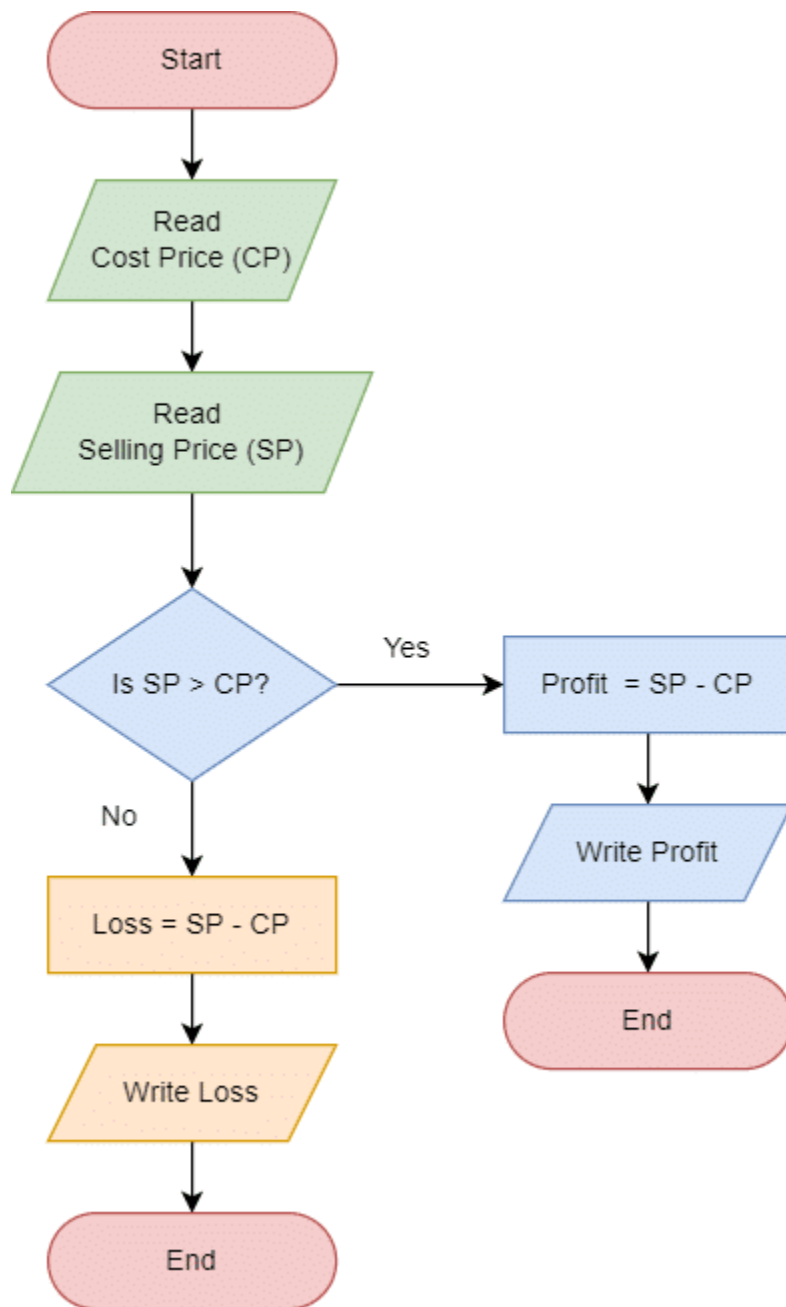
**Taking inputs**—cost price and selling price from the user at the start.



Create branches with identification of the profit and loss with the decision.



Calculate the profit and loss values.



Your flowchart is complete.



