# Algorithms

A sequence of steps to be carried out for a required output from a given input.

Algorithms can be classified into 3 types based on their structures:

1. **Sequence:** this type of algorithm is characterized with a series of steps, and each step will be executed one after another.
2. **Branching** "selection type"**:** this type of algorithm is represented by the "if-then" problems. If a condition is true, the output will be A, else, the output will be B.
3. **Loop** "repetition type"**:** for this type, the process might be repeatedly executed under a certain condition. It is represented by "while" and "for" problems. But make sure the process will end after a number of loops under the condition.

Algorithms are often represented in flowchart form for visual understanding. In other words, a flowchart is a diagram that represents an algorithm, showing the steps in various boxes and displays the process by connecting the boxes together.

Practical applications of algorithms are ubiquitous:

* 1. Examples of problems that make essential use of algorithms include finding good routes on which the data will be, and using a search engine to quickly find pages on which peculiar information resides.
  2. E commerce enables goods and services to be negotiated electronically.
  3. Merchant enterprises often need to allocate scarce resources in the most beneficial way.
  4. An oil company may wish to know where to place its wells in order to wane expense.
  5. A political candidate may want to determine where to spend money buying campaign advertising.
  6. An airline may wish to assign crews to flights in the least expensive way possible, making that government regulations regarding crew scheduling are met