



Programming in



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Introduction

Computer/Machine

Hardware Vs software

Programming language and types



What is Computer/Machine ?

A computer is a tool for solving problems with data.

What is Software?

Software is a set of instructions, data or programs used to operate computers and execute specific tasks.





Hardware

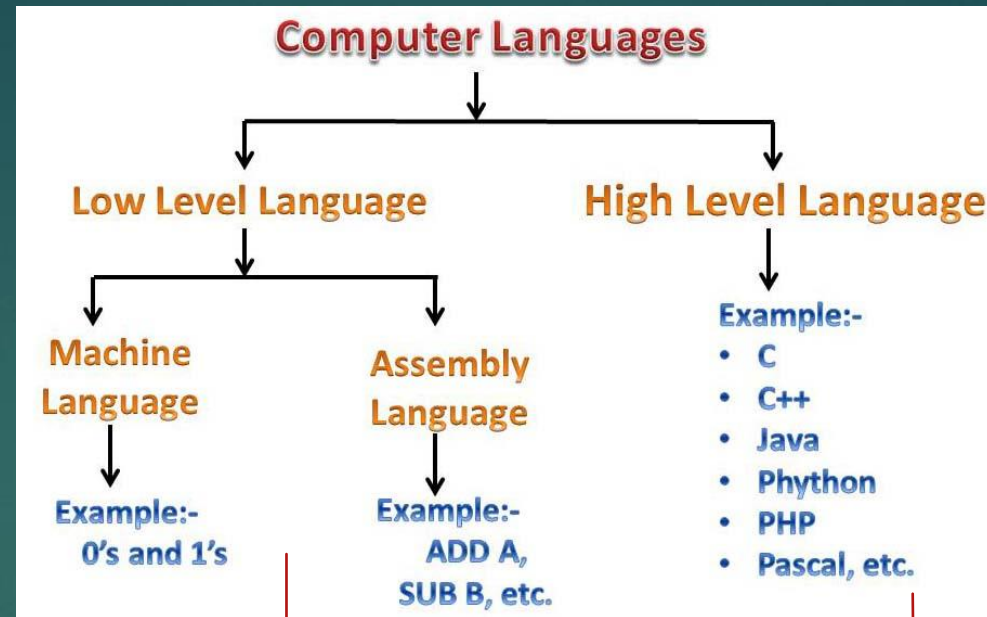
Software



What is Programming?

A programming language is a computer language programmers use to develop software programs, scripts, or other sets of instructions for computers to execute.

Although many languages share similarities, each has its own syntax. Once a programmer learns the languages rules, syntax, and structure, they write the source code in a text editor or IDE. Then, the programmer often compiles the code into machine language that can be understood by the computer. Scripting languages, which do not require a compiler, use an interpreter to execute the script.



Assembly & Machine Language

Assembly Language

```
ST 1,[801]
ST 0,[802]
TOP: BEQ [802],10,BOT
      INCR [802]
      MUL [801],2,[803]
      ST [803],[801]
      JMP TOP
BOT: LD A,[801]
      CALL PRINT
```

Machine Language

```
00100101 11010011
00100100 11010100
10001010 01001001 11110000
01000100 01010100
01001000 10100111 10100011
11100101 10101011 00000010
00101001
11010101
11010100 10101000
10010001 01000100
```

The screenshot shows a Python IDE with a project named 'BeginnersBook'. The file 'PythonExample.py' is open, displaying a program that prints a calendar for a given year and month. The code includes comments, imports, and logic for input and output. The output window shows the program running, with the user entering '2018' for the year and '06' for the month, resulting in a calendar for June 2018.

```
# Program published on https://beginnersbook.com
# Python program to print Calendar using
# Python built-in function

import calendar

# Enter in format - 2018, 1997, 2003 etc.
year = int(input("Enter Year: "))

# Enter in format - 01, 06, 12 etc.
month = int(input("Enter Month: "))

# printing Calendar
print(calendar.month(year, month))
```

Enter Year: 2018
Enter Month: 06
June 2018
Mo Tu We Th Fr Sa Su
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30

