

Royal Bihar Coders

Free Bootcamp | Basics of Programming

By Uttam

Pre Autumn Fall
January, 2021



Basics of Programming

Wave 2: Computer program

• 9th January

1. How a Computer program works? - The Architecture Behind
2. Programming and Coding - Same term?
3. Compiler - Bridge between you and computer
4. Compiler, Interpreter and Assembler
5. Programming environment
6. Coding "Hello World" - Your first computer program!
7. Home Work

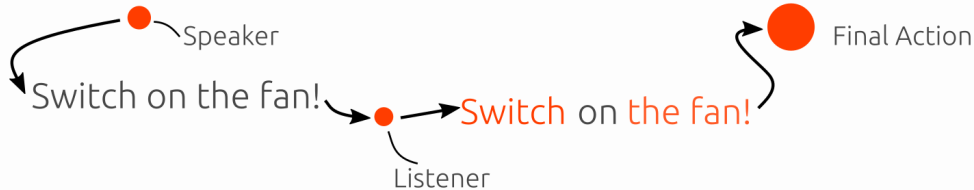
Basics of Programming

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🎤 How a computer program works - the architecture behind

- How a human language works ?



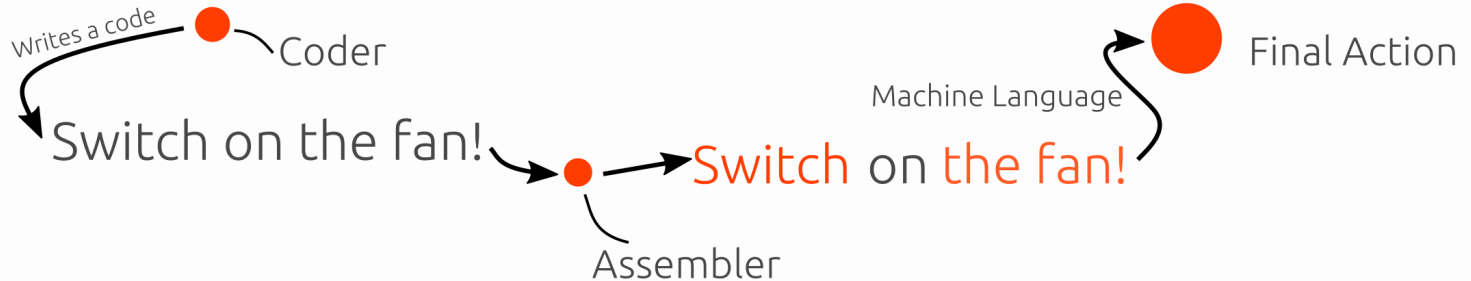
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🎤 How a computer program works - the architecture behind

- Computer program - an analogy!



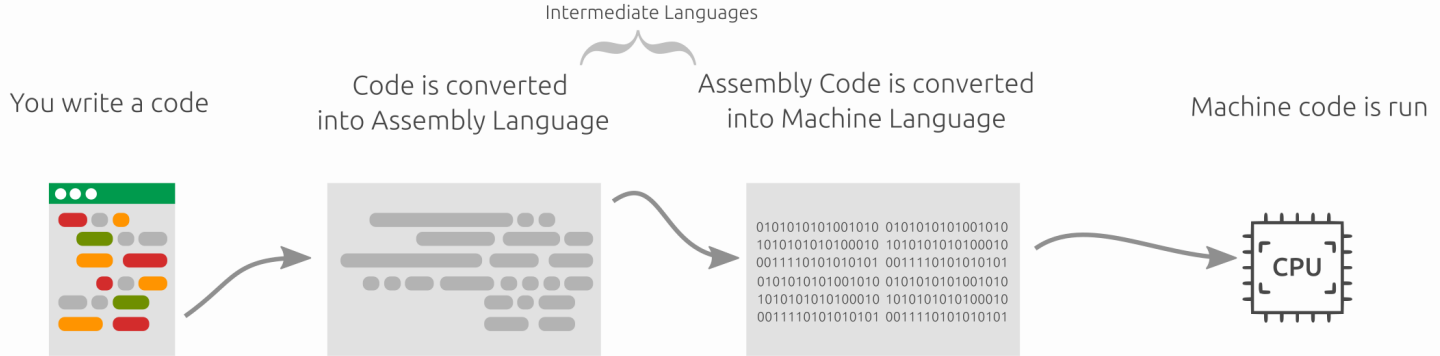
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🗣️ How a computer program works - the architecture behind

- The Basic Architecture



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🎤 How a computer program works - the architecture behind

- Programming vs Coding - Same term?

- "The path that you take to deduce a solution"

- "The instruction that you actually write on screen to implement your path"

Take money. Go to market.

Select vegetables. Pack. Give money.

or

Get a farming land. Grow your Vegetables.

or

Ask from your neighbour for vegetables!

Example (in python):

```
1  money = 100
2  myVegetableBag = []
3  myVegetableBag.insert(0,"potato")
4  money = money - 20
5  myVegetableBag.insert(0,"onion")
6  money = money - 30
7  myVegetableBag.insert(0,"tomato")
8  money = money - 40
9
10 print(money)
11 print(myVegetableBag)
12
```

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 Compiler - Bridge between you and computer

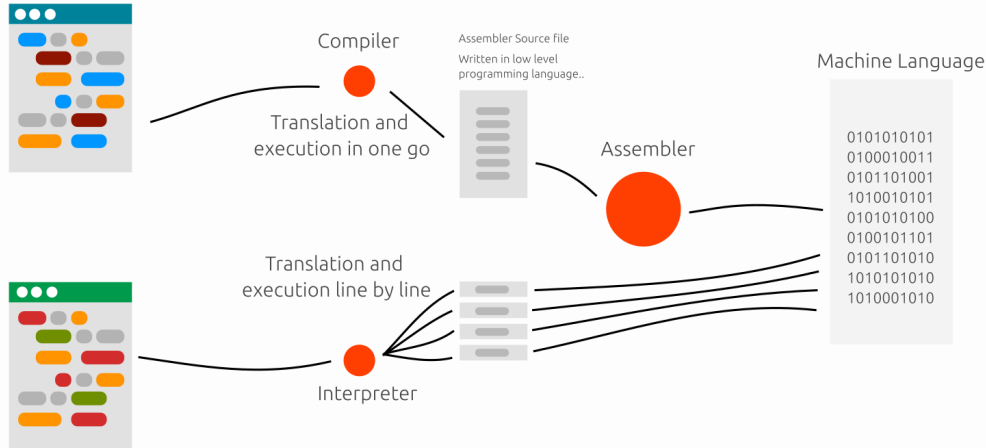
- Machines cannot understand codes written in any programming language directly.
- So, codes written in any programming language has to be converted in machine understandable language.
- The language that machine understands is called machine code.
- We do not convert high level programming languages such as Java, Python directly into machine code.
- To bridge this gap, compiler is used which converts these languages to assembly language.
- Then assembly language is converted to binary codes that machine understands.

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Compiler vs Interpreter vs Assembler



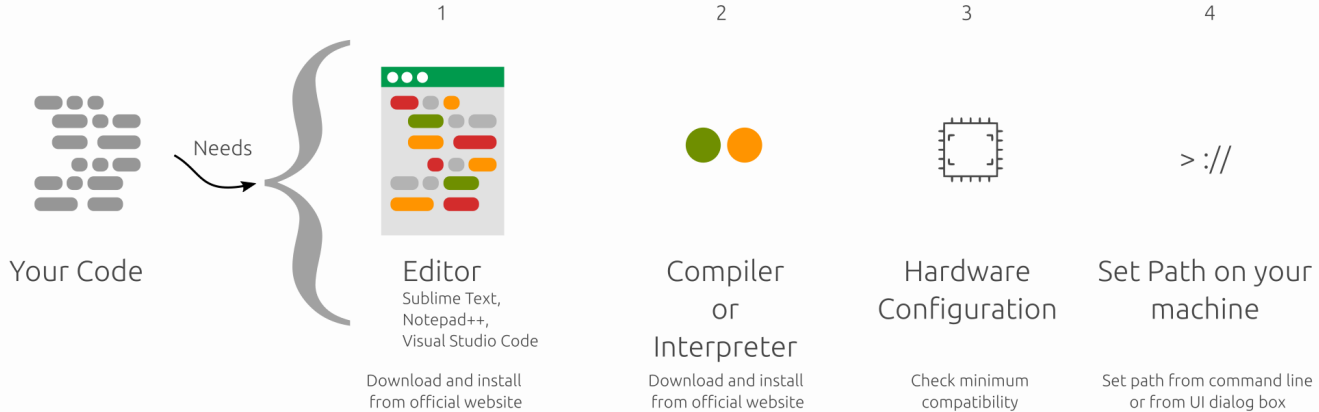
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Programming Environment

Before you start writing your code:



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 Coding "Hello World" - Your first computer program!