Part 1

Understanding Programming

Programming vs Coding (terms)

Coding is a part of programming that deals with writing codes that a machine can understand.

Programming is a process that creates programs that involve the ratification of codes

How coding works?

- **Computer systems are electronic devices that rely on binary coded signals for communication and functioning.**
- **The two types of binary coded signals are o's and 1's. These signals are generated using switches and transistors.**
- **Coding is a process of establishing a successful communication between a software program and the computer hardware.**

Compiler

Its main function is to convert high level programming code into machine language code

The whole code is converted into machine language at the same time

There are 7 phases of the compiler:

1. Lexical Analyser
2. Syntax analyser
3. Semantic analyser
4. Intermediate code generated
5. Code optimiser
6. Code generator
7. Error handler

Assembler

The main function of an assembler is that converts assembly level code into machine level code.

It does not convert the entire code at a single time

There are only two phases of an assembler:

1. First Phase
2. Second Phase

Assembly Language

To

Machine Code

Assembly vs. machine code

Machine code bytes	Assembly language statements
	`foo:`
`B8 22 11 00 FF`	`movl $0xFF001122, %eax`
`01 CA`	`addl %ecx, %edx`
`31 F6`	`xorl %esi, %esi`
`53`	`pushl %ebx`
`8B 5C 24 04`	`movl 4(%esp), %ebx`
`8D 34 48`	`leal (%eax,%ecx,2), %esi`
`39 C3`	`cmpl %eax, %ebx`
`72 EB`	`jnae foo`
`C3`	`retl`

Instruction stream

```
B8 22 11 00 FF 01 CA 31 F6 53 8B 5C 24
04 8D 34 48 39 C3 72 EB C3
```

Search in Google Images

PHP Compiler

Javascript Compiler

C Compiler

Java Compiler

https://en.wikipedia.org/wiki/Computer_program

What is Application?

An **application program** (**software application**, or **application**, or **app** for short) is a computer program designed to carry out a specific task other than one relating to the operation of the computer itself, typically to be used by end-users.

Word processors, media players, and accounting software are examples.

Web and Desktop Application

A web application is an application stored at a remote server. It requires a web browser to run and the internet for data or resource transfer.

Whereas, a desktop application is an application designed to serve standalone machines that don’t require the internet for its operation.

Mobile Application

A **mobile application** or **app** is a computer program or software application designed to run on a mobile device such as a phone, tablet, or watch.

List of Programming Languages

https://en.wikipedia.org/wiki/List_of_programming_languages

Terms to Remember

- Coding and Programming
- Compiler and Assembler
- Desktop Application
- Web Application
- Mobile Application

Programming Languages & Tools

- Javascript
- PHP
- Angular
- Dart & Flutter
- HTML / CSS
- Bootstrap
- Github
- Domain & Hosting Server

Goal of the Course

- Create a Web Application
- Create API (Application Program Interface)
- Create a Mobile Application
- Host the web application in server
- Host the Android App in Google Play Store
- All the above in 25 Days.

Course Fee : 25,000 Rs

How to achieve this?

- Passion
- **Practise (Keep on Coding)**
- Patience
- Persistence (Learn from failures)