

Python Modual – 1

1. What Is Software ?

Software is a set of instructions, data or programs used to operate computers and execute specific tasks. It is the opposite of hardware, which describes the physical aspects of a computer. Software is a generic term used to refer to applications, scripts and programs that run on a device.

Software not only makes your computer hardware perform important tasks, but can also help your business work more efficiently. The right software can even lead to new ways of working. It is therefore a crucial business asset and you should choose your software carefully so that it matches your business needs.

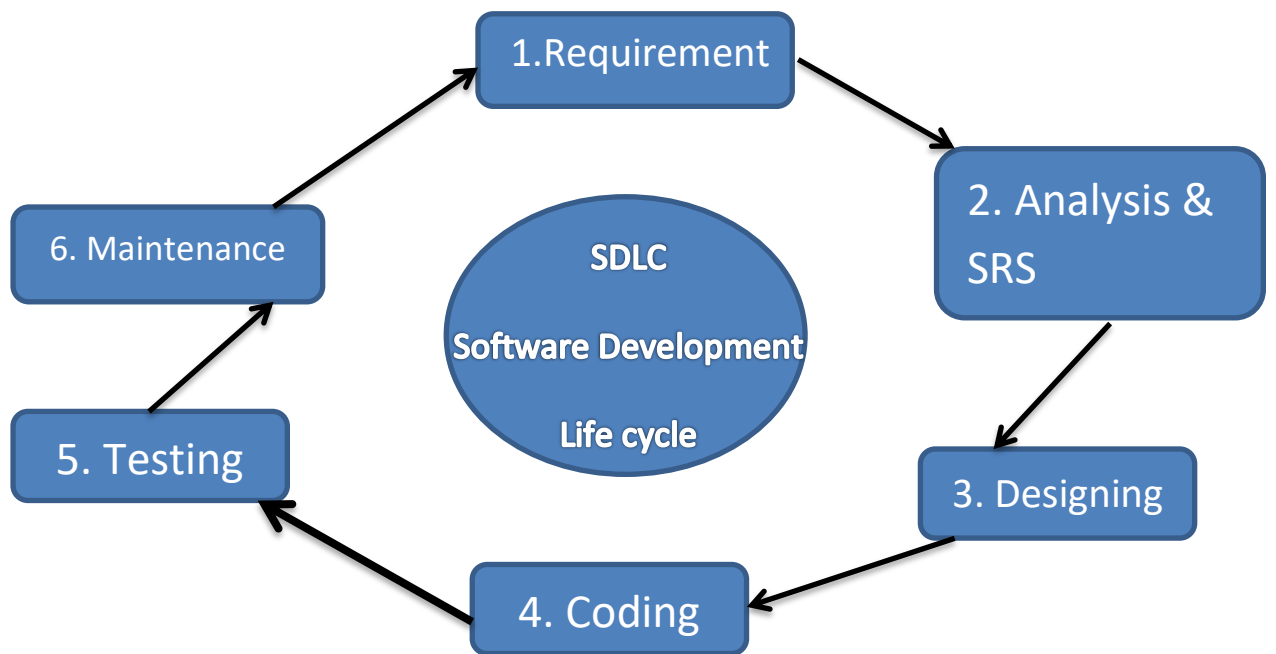
The software development lifecycle (SDLC) is the cost-effective and time-efficient process that development teams use to design and build high quality software. The goal of SDLC is to minimize project risks through forward planning so that software meets customer expectations during production beyond.

For project development, rules & regulation need to be followed for best quality output at defined time limit. It is part of software engineering. It is a process used by the software industry to design, develop, and test high quality software.

The SDLC has six rules to be followed :

1. Requirement Gathering

2. Analysis & SRS
3. Designing
4. Implementation (Coding)
5. Testing
6. Maintenance



2. What are the Types of Applications?

Application software (App) is a kind of software that performs specific functions for the end user by interacting directly with it. The sole purpose of application software is to aid the user in doing specified tasks.

Widely used application software includes office productivity suites, data management software, media players, and security programs

Software like system and utility software, which are all about the operation and performance of the computer itself.

There are 3 types of applications :

1. Native applications :

A native development tool is a software framework that enables programmers to design apps for a single operating system. Xcode, Android Studio, and React Native are all great native app development frameworks worth checking out. Both Xcode and Android Studio are classic native app development tools.

2. Web applications :

Any service offered over the Internet, by definition, is a form of Web application. Examples of Web applications therefore include online forms, shopping carts, video streaming, social media, games, and e-mail.

3. Hybrid applications :

A hybrid application is a software app that combines elements of both native and web applications. Hybrid apps are essentially web apps that have a native app shell.

Most Popular Hybrid App Examples:

Instagram. Adopting the hybrid approach has allowed developers to build an app that supports both offline data and rich media.

Twitter. I know it is difficult to believe, but Twitter is also among the top hybrid applications examples.

3. What is Programming?

Programming refers to a technological process for telling a computer which tasks to perform in order to solve problems. You can think of programming as a collaboration between humans and computers, in which humans create instructions for a computer to follow (code) in a language computers can understand.

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.

Below the most common programming languages :

1. C
2. CS
3. C#
4. C++
5. HTML
6. JAVA
7. JavaScript
8. SQL

4. What is Python ?

Python is an interpreted, object-oriented, high-level programming language with dynamic semantics.

Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for rapid application development.

Python supports modules and packages, which encourages program modularity and code reuse.

The python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

- Designed to be easy to learn and master
- Highly portable
- Extensible

Feature of Python :

- Clean syntax plus high-level data types
 - Leads to fast coding (First language in many universities abroad!)
- Uses white-space to delimit blocks
 - Humans generally do, so why not the language?
 - Try it, you will end up liking it
- Variables do not need declaration
 - Although not a type-less language

Productivity of Python :

- Reduced development time
 - code is 2-10x shorter than C, C++, Jav
- Improved program maintenance
 - code is extremely readable
- Less training
 - language is very easy to learn