Name: Divyesh Soni

Top Technologies Assignment

Module- 1 (SDLC)

1. What is Software? What is Software Engineering?

* Software is a set of instructions, data or programs that allows user to perform any tasks in a well-organized way.
* Software Engineering is a set of process that generally analyse the user requirement, design, build, test and maintain the software product.

1. Explain types of Software.

* Generally, Software is of two types:

1. System Software:

* It operates the computer hardware such as storage devices, monitors, printer, etc and provides the basic functionality to the user to work smoothly.
* This type has three sub types:

1. Operating System
2. Language Processor
3. Device Driver
4. Application Software:

* It is a product or program that provides end-to-end solutions to the user requirements. In general, it is designed to perform special tasks.
* This type has three sub types:

1. General Purpose Software
2. Customized Software
3. Utility Software
4. System Software:
5. Operating System:

* It is a first program of a computer system. Basically, it manages resources such as memory, CPU, hard disk, etc. And provide an interface to the user where user can interact with the system.
* e.g.: Linux, Microsoft Windows, macOS.

1. Language Processor:

* Basically, it converts the human-readable language into machine programming language like Java, C, C++, Python, etc and vice versa.

1. Device Driver:

* It is a program or software that controls device to perform its functions. When we connect a new device with computer, first we need to install a driver of that device so that OS knows how to control or manage that device.

1. Application Software:
2. General Purpose Software:

* It is a type of software that perform multiple tasks and not limited to perform limited task only.
* e.g.: PowerPoint, MS-Word, MS-Excel, etc.

1. Customized Software:

* It is a type of software that is designed to perform a special tasks or functions,
* e.g.: Bus ticket booking service, Parking booking service, etc.

1. Utility Software:

* It is a type of software that used to support the computer infrastructure. It is designed to analyse, configure, optimize and maintains the system, and take care of its requirements.
* e.g.: Antivirus, Memory tester, etc.

1. What is SDLC? Explain each phase of SDLC.

* SDLC (Software Development Life Cycle)
* The name SDLC itself shows the purpose “Development of a software”.
* SDLC process includes 6 stages:

1. Planning:

* It is the most important stage of software development, where developer takes the information or inputs from the clients.

1. Defining:

* In this step developer define and document the product requirements and approve from the client or market analyses. This is done through SRS (Software Requirement Software) which consists of all the product required during whole cycle.

1. Designing:

* Before start developing the product, designing is the most important stage and also it is most time taking stage. It clearly defines all the architectural modules like which language to be chosen, etc. And after evaluating all the possible factors, most practical and logical design is chosen for the development.

1. Developing:

* In this stage developer starts developing the product. Programming language is chosen either clients information or with respect to the type of software being developed.

1. Testing:

* After developing the product, it goes for the testing phase where all the defects are reported, tracked, fixed and retested, until the product reaches the quality standards.

1. Maintenance:

* After the product is released in the appropriate market, its maintenance is done for the existing customer base.

1. What is DFD? Create a DFD diagram on Flipkart.

* DFD (Data Flow Diagram)
* It is the most time-consuming process in development.
* It shows the visual representation of the flow of data of a system or process.
* Generally, DFD are defines in three levels:

1. 0- level DFD
2. 1-level DFD
3. 2-level DFD

* It uses defines symbols like rectangles, circles, arrows and short text labels to show data inputs & outputs, storage points and the routes between each destination.

1. What is Flow chart? Create a flowchart to make addition of two numbers.

* It is a graphical representation of the data or the algorithm. It shows the step-by-step solution to a problem, algorithm or process.
* Flowchart Symbols:

1. Terminal:

* Oval shape- Indicates the start or end of the program.

1. Data:

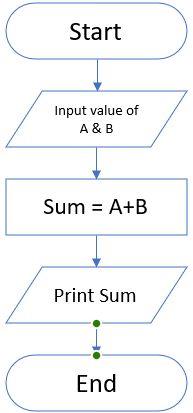
* Parallelogram- In it inputs or outputs are written.

1. Process:

* Rectangle- In its programmer writes the main logic of the program.

1. Decision:

* Rhombus- It controls statement like if or condition like a>0, etc are written here.
* There are two paths from this, one which is “yes” and the other one is “no”.
* Flowchart of “Addition of two numbers”:



1. What is Use case Diagram? Create a use-case on bill payment on Paytm.