

SOFTWARE ENGINEERING ASSIGNMENT

Module(SDLC)

Q1.What is software? What is software engineering?

Ans:

Software Application that helps in the automation of the task based on the Users Input.It can perform single or multiple tasks at the same period of time.There are the different applications which helps us in our daily life to process our instructions based on certain rules and regulations.

Software engineering is the branch of computer science that deals with the design, development, testing, and maintenance of software applications. Software engineers apply engineering principles and knowledge of programming languages to build software solutions for end users.Software engineering includes a variety of techniques, tools, and methodologies, including requirements analysis, design, testing, and maintenance.

Q2.Explain types of software?

Ans:

There are 5 types of software:-

1) Application Software:-

The most common type of software, application software is a computer software package that performs a specific function for a user, or in some cases, for another application.An application can be self-contained, or it can be a group of programs that run the application for the user.

For Example:- Microsoft Office, Paint, Powerpoint etc..

2)System Software:-

System software coordinates the activities and functions of the hardware and software.It controls the operations of the computer hardware and provides an environment or platform for all the other types of software to work in.

The OS is the best example of system software; it manages all the other computer programs.

For Example:- firmware, computer language translators and system utilities..

3)Driver Software:-

It is also known as device drivers, this software is often considered a type of system software.Device drivers control the devices and peripherals connected to a computer,enabling them to perform their specific tasks.Every device that is connected to a computer needs at least one device driver to function.

For Example:- Audio Driver,Video Driver etc..

4)MiddleWare:-

The term **middleware** describes software that mediates between application and system software or between two different kinds of application software. It is also used to send a remote work request from an application in a computer that has one kind of OS, to an application in a computer with a different OS.

For example:- middleware enables Microsoft Windows to talk to Excel and Word.

5)Programming Software:-

Computer programmers use programming software to write code. Programming software and programming tools enable developers to develop, write, test and debug other software programs.

For Example:- Assemblers, compilers, debuggers and interpreters.

Q3.What is SDLC? Explain each phase of SDLC?

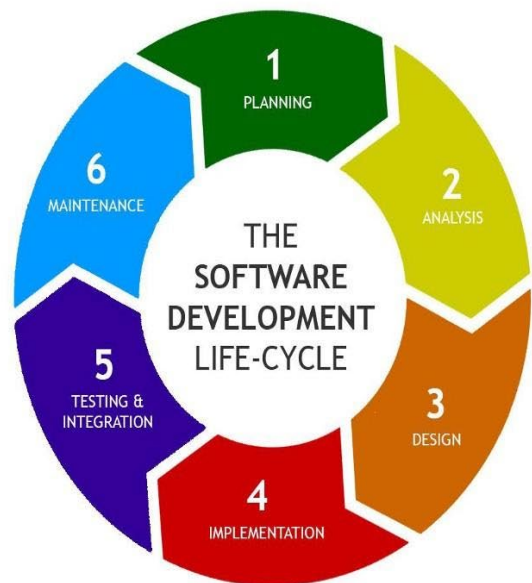
Ans:

The Software Development Life Cycle (SDLC) refers to a methodology with clearly defined processes for creating high-quality software.

SDLC Methodology

Phases:-

1. Requirement Gathering
2. Analysis
3. Designing
4. Implementation
5. Testing
6. Maintenance



1)Planning:-

- Planning Phase is the initial phase of SDLC.
- In this phase goal,scope,objective definition,resource planning,communication planning are defined.

2)Analysis:-

- This is the requirement gathered phase.
- This involves a understanding user need, processes and system functionalities.
- That serve as a blueprint for the software development.

3)Design:-

- In this phase translate requirement into technical design.
- High level and low level design created
- High Level design focus on system architecture while the low level design focus on the specifics each module

4)Implementation:-

- This is also known as the coding phase
- Developers write a code based on the design specifications
- This phase produce the actual source code of the software

5)Testing:-

- In this phase software are rigorously tested
- Different level testing are conducted including unit testing, integration testing,system testing and user acceptance testing.

6)Maintenance:-

- The maintenance phase benign once the software is deployed to the production environment
- It involves monitoring the software performance, issues and making necessary updates.
- This phase ensure the software remains functional and up-to-date throughout its life cycle.

Q4.What is DFD? Create a DFD diagram on Flipkart?

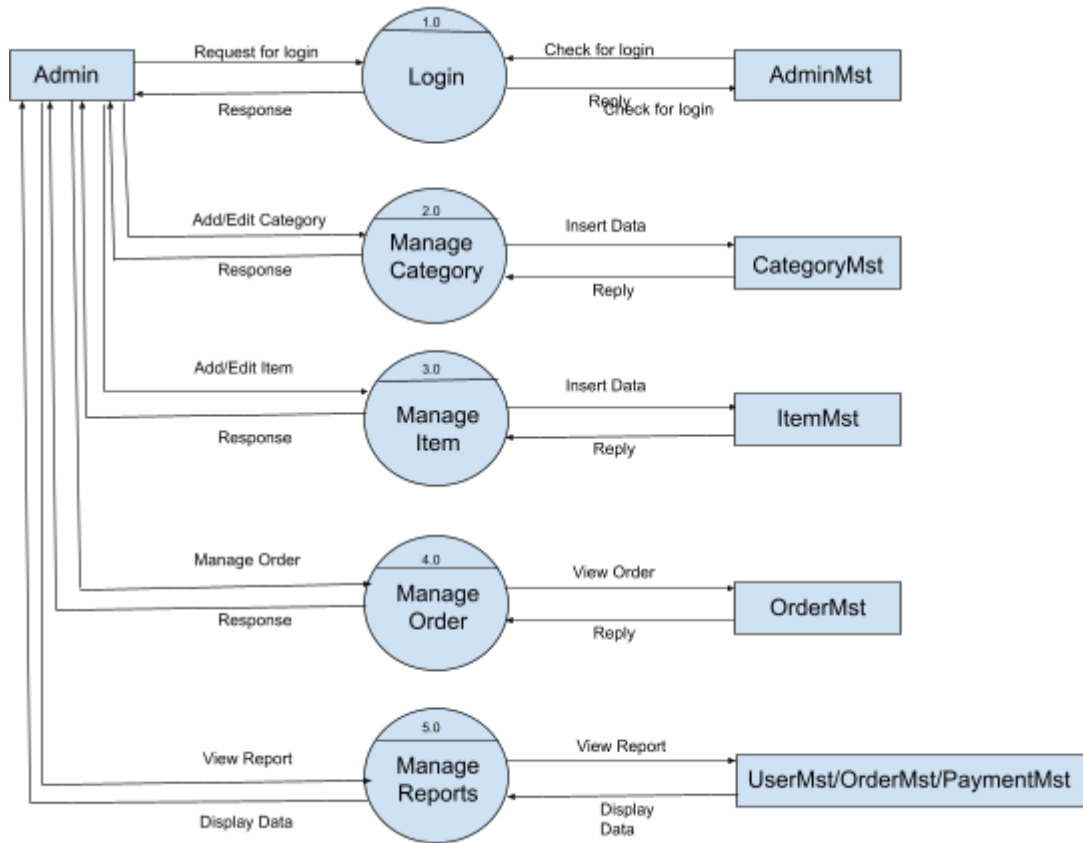
Ans:-

DFD is the abbreviation for Data Flow Diagram. The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present. Specific operations depending on the type of data can be explained by a flowchart. It is a graphical tool, useful for communicating with users, managers and other personnel. It is useful for analysing existing as well as proposed systems.

0th level DFD



1st Level DFD



Q5.What is Flow chart? Create a flowchart to make addition of two numbers?

Ans:

Flowcharts are nothing but the graphical representation of the data or the algorithm for a better understanding of the code visually. It displays step-by-step solutions to a problem, algorithm, or process. It is a pictorial way of representing steps that are preferred by most beginner-level programmers to understand algorithms of computer science, thus it contributes to troubleshooting the issues in the algorithm. A flowchart is a picture of boxes that indicates the process flow sequentially.

Shapes for the flow chart

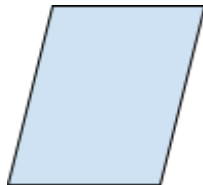
Terminal:-



On Page Reference:-



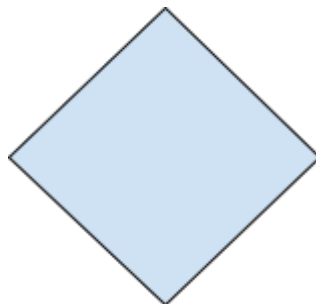
Data:-



Process:-



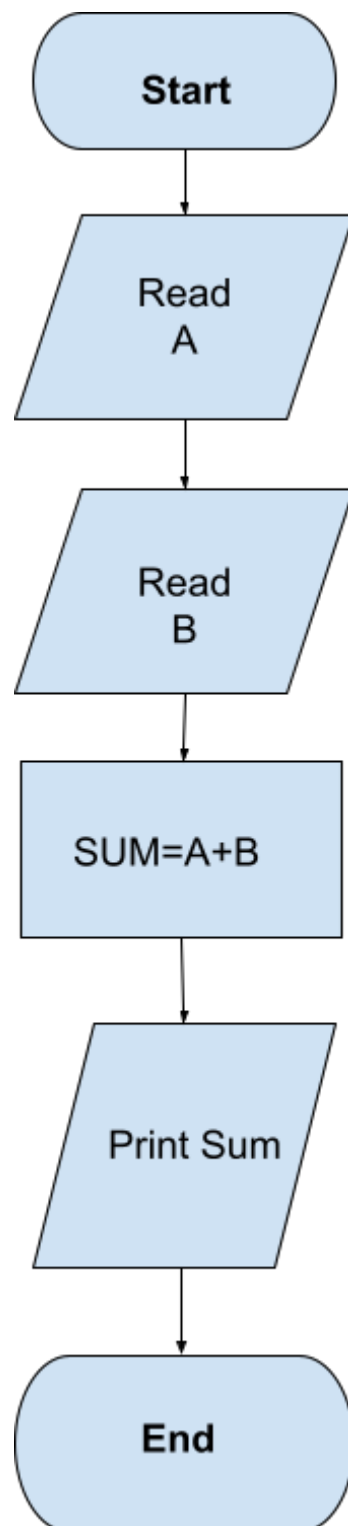
Decision:-



Flow:-



Flowchart for addition of two Numbers:



Q6).What is Use case Diagram? Create a use-case on bill payment on paytm?
Ans:

A use case diagram is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well. The use cases are represented by either circles or ellipses. The actors are often shown as stick figures.

- Used to gather the requirements of a system.
- Used to get an outside view of a system.
- Identify the external and internal factors influencing the system.
- Show the interaction among the requirements are actors.

Use-case on bill payment:

