**B1. What is software?**

## software is a set of instructions, data, or programs used to operate a computer and execute specific tasks. In simpler terms, software tells a computer how to function. It’s a generic term used to refer to applications, scripts, and programs that run on devices such as PCs, mobile phones, tablets, and other smart devices. Software contq2rasts with hardware, which is the physical aspects of a

q2 what ts software engineering

Software engineering is defined as a process of analyzing user requirements and then designing, building, and testing software application which will satisfy those requirements.

Let’s look at the various definitions of software engineering:

* IEEE, in its standard 610.12-1990, defines software engineering as the application of a systematic, disciplined, which is a computable approach for the development, operation, a

Q3 Explain types of software

There are two types of software

1 systematic software

System software is **a type of computer program that is designed to run a computer's hardware and application programs**. If we think of the computer system as a layered model, the system software is the interface between the hardware and user applications. The operating system is the best-known example of system software.

2 application software

Application software is **an end-user program typically divided into two classes: application software and systems software**. Systems software provides an operating system and utilities that enable applications software such as database programs, spreadsheets, web browsers, and more to run

Q3 What is SDLC ? explain each phase of sdlc

Meaning of sdlc

Software development life cycle is a process used by software industry to design develop and test high quality

Software the sdlc aim to produce high quality software that meets or exceeds customer expectation reaches completion earlier time ans cost estimates

Phases of software development life cycle

1. Requirement
2. analysis
3. design
4. development
5. testing
6. deployment
7. maintenance

(1)requirement

The requirement is the first stage in the SDLC process. It is conducted by the senior team members with inputs from all the stakeholders and domain experts in the industry. Planning for the [quality assurance](https://www.guru99.com/all-about-quality-assurance.html) requirements and recognization of the risks involved is also done at this stage.

This stage gives a clearer picture of the scope of the entire project and the anticipated issues, opportunities, and directives which triggered the project.

Requirements Gathering stage need teams to get detailed and precise requirements. This helps companies to finalize the necessary timeline to finish the work of that system.

(2) analysis

Once the requirement analysis phase is completed the next sdlc step is to define and document software needs. This process conducted with the help of ‘Software Requirement Specification’ document also known as ‘SRS’ document. It includes everything which should be designed and developed during the project life cycle.

**There are mainly five types of feasibilities checks:**

* **Economic:**Can we complete the project within the budget or not?
* **Legal:** Can we handle this project as cyber law and other regulatory framework/compliances.
* **Operation feasibility:** Can we create operations which is expected by the client?
* **Technical:** Need to check whether the current computer system can support the software
* **Schedule:** Decide that the project can be completed within the given schedule or not.

(3) design

In this third phase, the system and software design documents are prepared as per the requirement specification document. This helps define overall system architecture.

This design phase serves as input for the next phase of the model.

There are two kinds of design documents developed in this phase:

**High-Level Design (HLD)**

* Brief description and name of each module
* An outline about the functionality of every module
* Interface relationship and dependencies between modules
* Database tables identified along with their key elements
* Complete architecture diagrams along with technology details

**Low-Level Design (LLD)**

* Functional logic of the modules
* Database tables, which include type and size
* Complete detail of the interface
* Addresses all types of dependency issues
* Listing of error messages
* Complete input and outputs for every module

(4) development

Once the system design phase is over, the next phase is coding. In this phase, developers start build the entire system by writing code using the chosen programming language. In the coding phase, tasks are divided into units or modules and assigned to the various developers. It is the longest phase of the Software Development Life Cycle process.

In this phase, Developer needs to follow certain predefined coding guidelines. They also need to use [programming tools](https://www.guru99.com/software-development-tools.html) like compiler, interpreters, debugger to generate and implement the code

(5) testing

Once the software is complete, and it is deployed in the testing environment. The testing team starts testing the functionality of the entire system. This is done to verify that the entire application works according to the customer requirement.

During this phase, QA and testing team may find some bugs/defects which they communicate to developers. The development team fixes the bug and send back to QA for a re-test. This process continues until the software is bug-free, stable, and working according to the business needs of that system.

(6) deployment

Once the software testing phase is over and no bugs or errors left in the system then the final deployment process starts. Based on the feedback given by the project manager, the final software is released and checked for deployment issues if any.

### maintenance

Once the system is deployed, and customers start using the developed system, following 3 activities occur

* Bug fixing – bugs are reported because of some scenarios which are not tested at all
* Upgrade – Upgrading the application to the newer versions of the Software
* Enhancement – Adding some new features into the existing software

The main focus of this SDLC phase is to ensure that needs continue to be met and that the system continues to perform as per the specification mentioned in the first phase

Q4 what is dfd create a dfd diagram on flipcart

A data flow diagram (DFD) is **a graphical or visual representation using a standardized set of symbols and notations to describe a business's operations through data movement**. They are often elements of a formal methodology such as Structured Systems Analysis and Design Method (SSADM).

Data flow diagram on flipcart

installation

The app is not opening

Create account

retry

login

Start the app

No login

yes

Search for the

product

hkhkhkhjk

Payment

errop

Add to cart

exit

Chose payment method

buy

hjkjkhj go to the

5th step

Q5 what is flow chart create a flow chart to make a addition of two number

Start / Stop

Input and Output

Flow Directions

Process

Decision

Start

Take inputs(a & b)

Decision

If Input is Decimal , then goto Start.

If not the continue with next step.

Process ( Add 2 inputs)

Output (Show the Result)

Stop

Q6 what is use case diagram create a use case diagram on bill payment on paytm ?

Use-case diagrams **describe the high-level functions and scope of a system**. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally.

Use case diagram on bill payment on paytm

install

Start the app

login

error

login

Else if you cant login

Then go to first step

Search

For the

product

Add

To

cart

buy

Payment

error

Bill

payment

Go back to the

Fifth step

payment

sucessusfull

exit