Backend Assignment

Software engineer Assignment

Module - 1 (SDLC)

1.0 What is software ? What is software engineering?

Software is more than just a program code. A program is an executable code. Software is used to be collection of executable programming code, associated libraries and documents. Software, when made for a specific requirement is called software product.

Software Engineering is all about developing products, using well-defined, scientific principles and methods. The outcome of software engineering is an efficient and reliable software product.

1.1 Explain types of software

- Application software
- System software
- Driver software
- Middleware software
- Programming software

Application Software :- The most common type of software is computer software packages that perform in specific function for user on in some causes for another application. An application can be self contained or it can be group of programs that run the application of the user.

System Software :- These software programs are designed to run an computer's application program & hardware. System software coordinates the activities and function 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 work in.
The OS is the best example of system it manage all the other computer program. Other example of system software includes the firmware computer language translator and system utilities
Ex. Notepad, Calculator

Driver Software :- Also known as device driver. This software is often considering a type of system software.
Device driver controls the device and peripheral connected to a computer enabling them to perform these specific tasks.
Every device that is connected to a computer needs at least one device driver to function.
Ex. Audio driver & Video driver

Middleware Software :- The middleware describe software mediates between application and system software or between two different kinds of application software.
For Ex. Middleware enables Microsoft windows to talk to excel and word.
It is also use send remote work request an application in a computer with different OS it also enables newer application to work with legacy ones. Ex. Database middleware, application server middleware

Programming Software :- Computer programmer use programming language to write code programming software and programming tools enables developers to develop, write test and debug other software programs.
Examples of programming software include assemblers, compliers debuggers and interpreters.
Ex. Turbo c, Eclipse, etc...

1.2 What is SDLC ? Explain each phase of SDLC

The software development life cycle (SDLC) refers to a methodology with clearly defined process for creating high quality software.

1. Requirement gathering
2. Analysis
3. Designing
4. Implementation
5. Testing
6. Deployment
7. Maintenance

Requirement gathering :- It is performed by the senior members of the team with inputs from the customer, the sales department, market surveys and domain experts in the industry. This information is then used to plan the basic project approach and to conduct product feasibility study in the economical, operational and technical areas.

Planning for the quality assurance requirements and identification of the risks associated with the project is also done in the planning stage.

Analysis :- Once the requirement analysis is done the next step is to clearly define and document the product requirements and get them approved from the customer or the market analysts. This is done through an SRS (Software Requirement Specification) document which consists of all the product requirements to be designed and developed during the project life cycle.

Designing :- The next phase is about to bring down all the knowledge of requirements, analysis, and design of the software project. This phase is the product of the last two, like inputs from the customer and requirement gathering.

Implementation :- In this phase of SDLC, the actual development begins, and the programming is built. The implementation of design begins concerning writing code. Developers have to follow the coding guidelines described by their management and

programming tools like compilers, interpreters, debuggers, etc. are used to develop and implement the code.

Testing :- After the code is generated, it is tested against the requirements to make sure that the products are solving the needs addressed and gathered during the requirements stage. During this stage, unit testing, integration testing, system testing, acceptance testing are done.

Deployment :- Once software is certified and no bugs or error stated, then it is deployed.

After the software is deployed, then its maintenance begins.

Maintenance :- Once when the client starts using the developed systems, then the real issues come up and requirements to be solved from time to time.

This procedure where the care is taken for the developed product is known as maintenance.

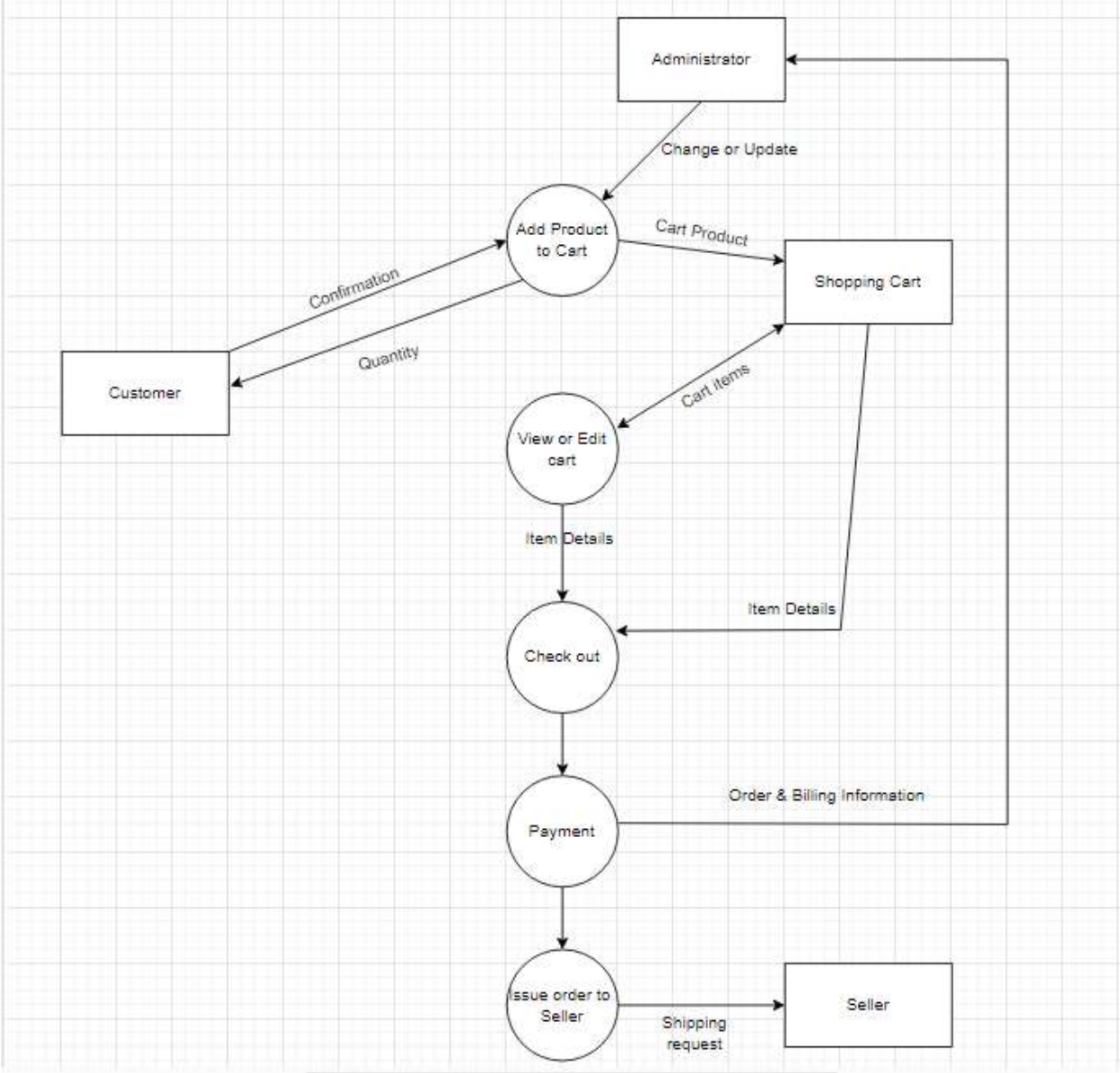
1.3 What is DFD ? Create DFD Diagram on Flipkart.

DFD stands for “data flow diagram”. It is also known as “bubble chart”.

Through which we can represent the flow of data graphically on an information system.

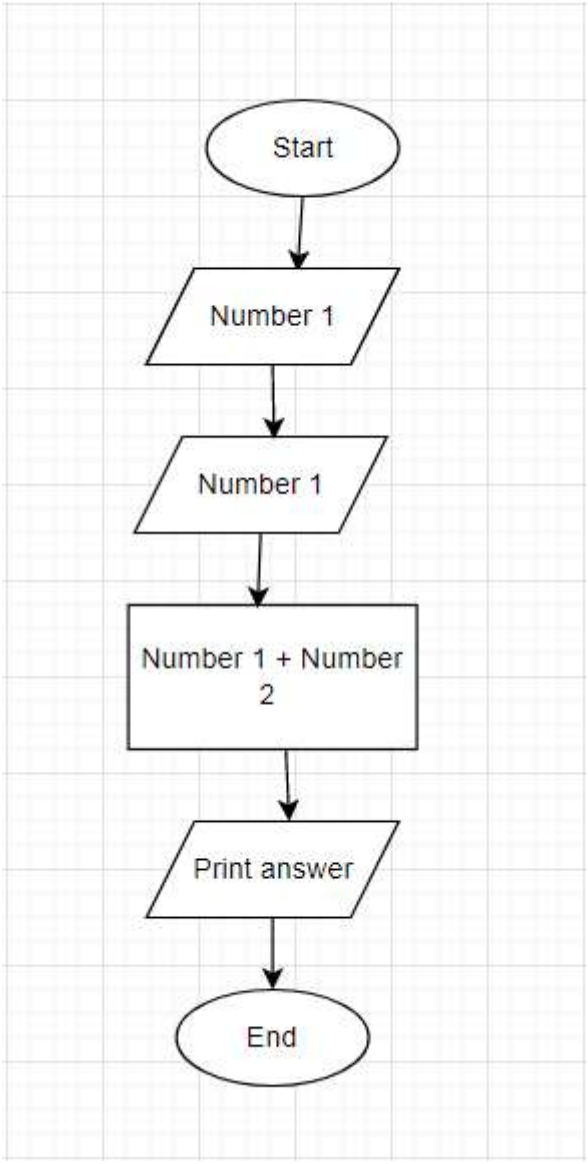
By using DFD we can easily understand the overall functionality of the system because the diagram represents the incoming data flow, outgoing data flow and stores data in graphical form.

It is described how data is processed in a system in terms of input and output



1.4 What is flow chart ? Create flow chart to make addition of two numbers.

A flowchart is a diagrammatic representation of steps that we have taken to solve the problem.

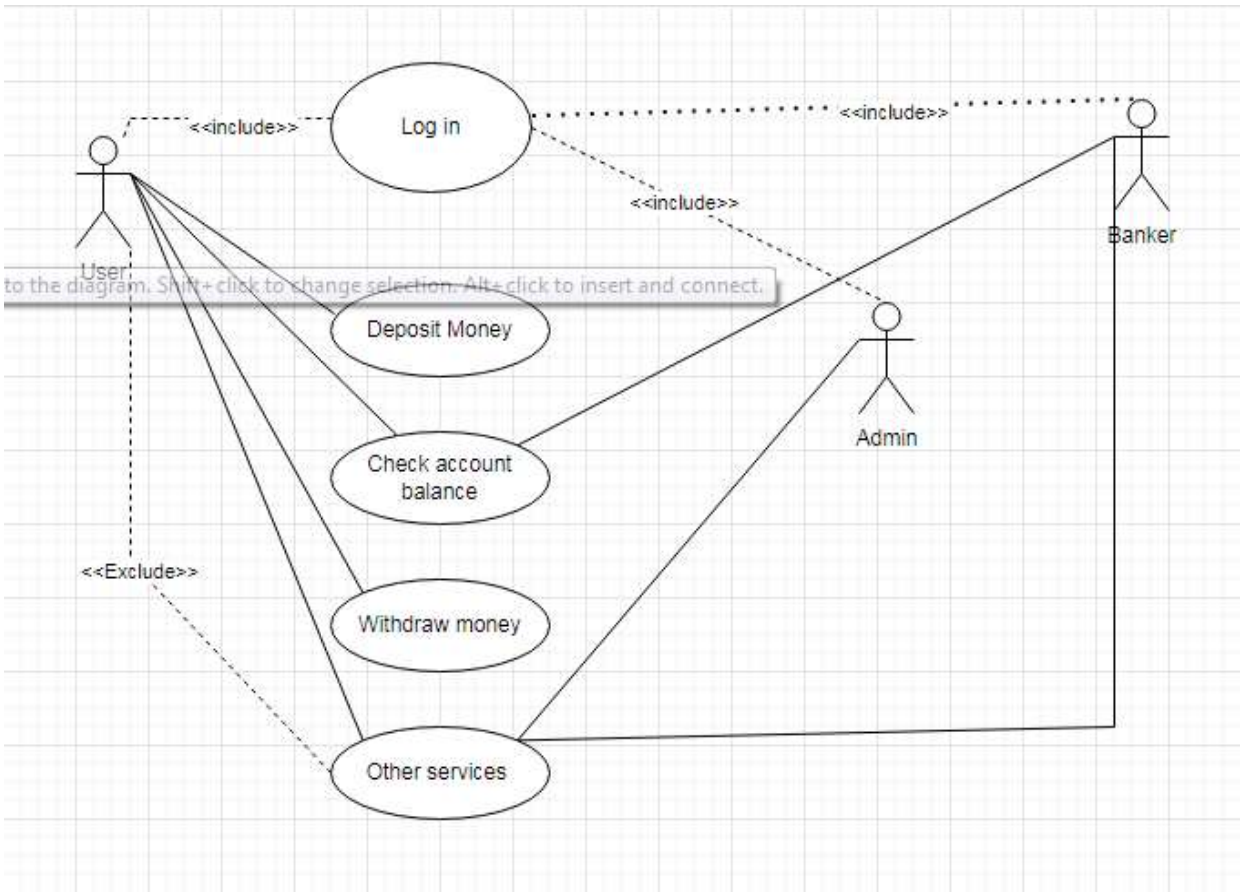


1.5 What is use case diagram ? Create use case on bill payment on Paytm.

Use case diagram is the primary form of system requirements for a new software program underdeveloped.

Use case can be denoted both text and visual representation.

A key concept of use case modeling can help us design a system from the end user's perspective.


Log in
<<include>>
<<include>>
<<include>>
User
Banker
Admin
Deposit Money
Check account balance
Withdraw money
Other services
<<Exclude>>