Assignment_1

(1) What is SDLC?

SDLC stands for Software Development Life Cycle. Basically, SDLC is a structure that showcases the step-by-step process of the development of the software from initial stage of Information Gathering to its Deployment and then its Maintenance. It consists of 6 steps i.e., Gathering Client requirement, Analysis, Designing Architecture, Coding, Testing, and Maintenance.

(2) What is software testing?

Software testing is a process of testing the software in order to finds its correctness, completeness and quality of the final product. Testing goes in various stages of Software development life cycle.

(3) What is Agile Methodology?

Agile Model is a combination of Iteration and Incremental model of Software Development. In this model, the entire project is divided into small incremental builds which is assigned to different individual professionals. All these small divided builds go through various stages of SDLC.

(4) What is SRS?

SRS stands for Software Requirement Specification. SRS consists of the detailed description of the behaviour of the system which is proposed to be developed. It consists of a set of Use-Case in order to describe the workability/actions of an actor with the system. There are mainly three types of requirements gathered in SRS i.e., Client requirement, Functional requirement, Non-functional requirement.

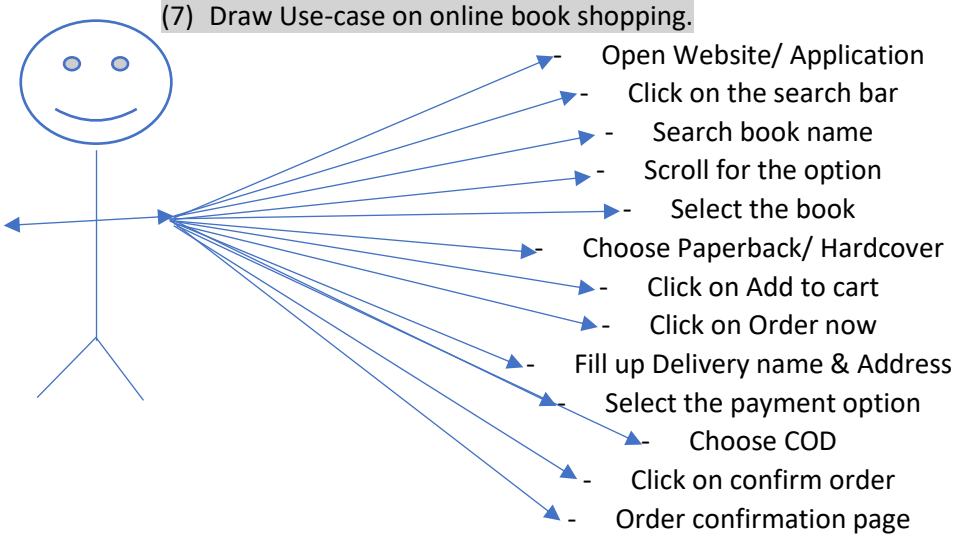
(5) What is OOPS?

OOPS stand for object-oriented programming system. It is also known as black box system. OOPS consists of an objects which is used for communication and interaction in the system. Each object consists of responsibility assigned by the developer by coding. Objects are divided into groups to create class.

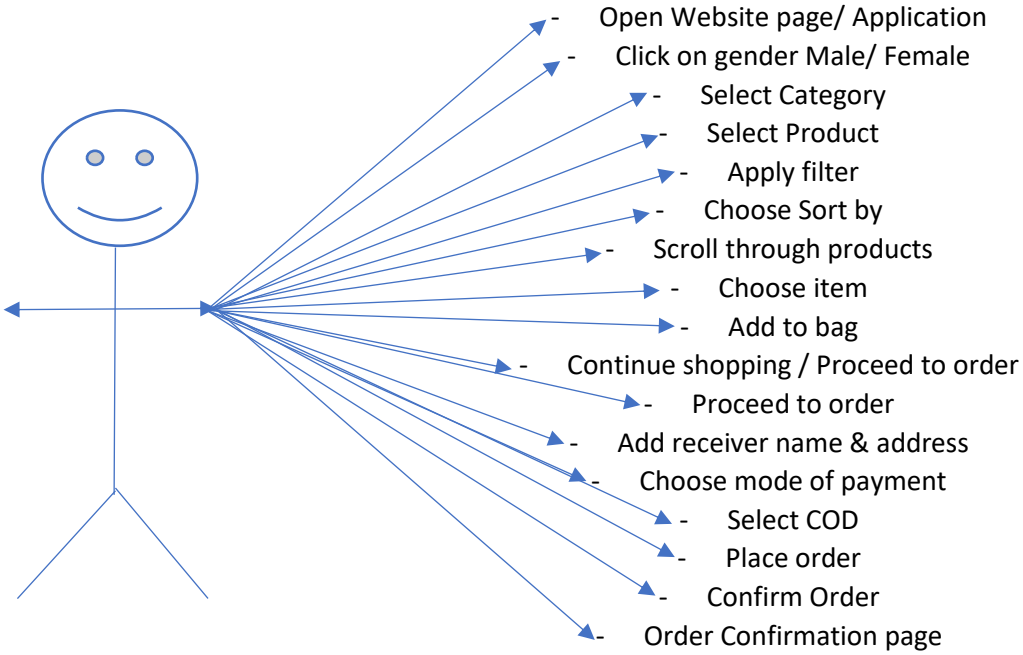
(6) Write basic concepts of OOPS.

- Object
- Class
- Encapsulation
- Polymorphism
- Inheritance
- Abstraction

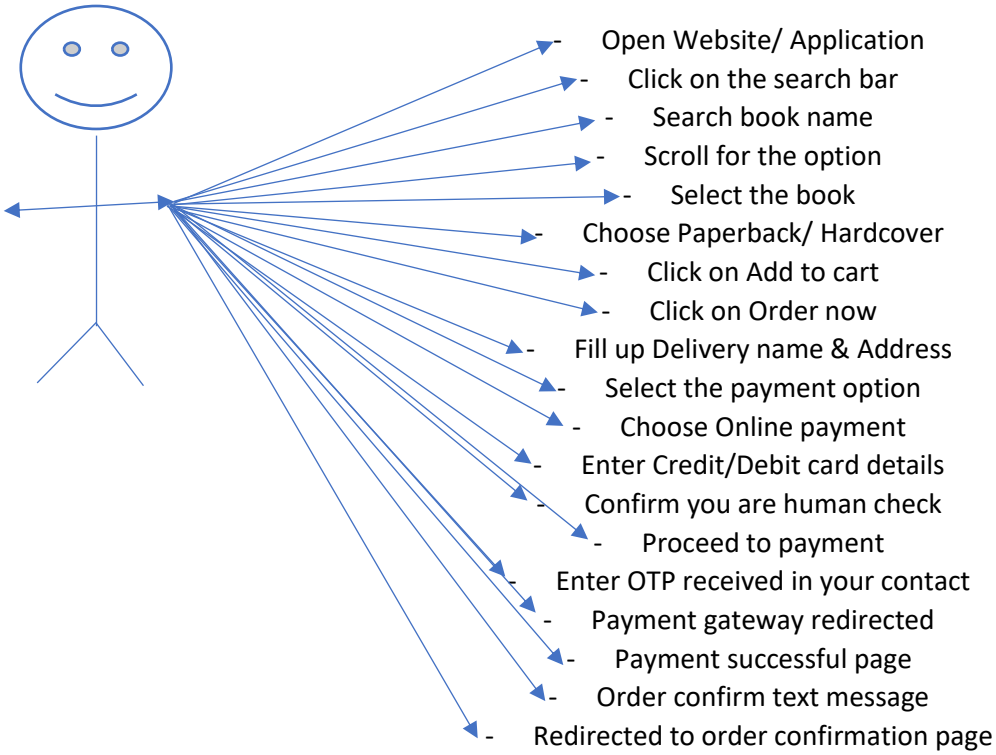
(7) Draw Use-case on online book shopping.



(8) Draw Use-case on online shopping product using COD



(9) Draw Use-case on online shopping product using payment gateway



(10) What is Object?

An object is a data member generated by developer through coding language in order to send message (communicate) to other object in system. Object consists of an enclosed data. It is assigned with specific functional responsibilities.

(11)What is Class?

Class is represented as a collection of a data member such as variable and a member function such as process and method with its behaviour.

(12)What is Encapsulation?

Encapsulation means to hide the data into a single unit i.e., to privatize the data member and member function.

(13)What is Inheritance?

Inheritance in simple terms means to carry on from the previous/ upper class object. Technically it can be expressed as the extension of parent class to children class.

(14)What is Polymorphism?

Polymorphism means the property of identifying the same name or object having different/ multiple forms.

(15)Write SDLC phase with basic introduction.

Software development life cycle consist of 6 stages of software development.

- ***Collecting Client Requirement:*** Functional & Non- functional requirements are gathered from the client.
- ***Business Analysis:*** Depending upon the functional and non-functional requirements received from the client, this phase defines the requirement of the system independent of how it will be accomplished. This phase is also known as "*what"* phase.
- ***Designing Architecture:*** Software architecture/ working architecture is developed through team members. Implementation plan, Critical priority and Test plans are developed.
- ***Developing/ Coding:*** In this phase, the Developer/Coder starts developing the product based on the requirements designed in the architecture phase, keeping in my mind the entire workability required by the customer.
- ***Testing:*** Usually test cases are generated initially with the initial phases of SDLC. In this phase software is tested in order to find If there exist any defect in the developed software. In this phase software passes through various methods of testing in order to deliver optimum quality of product.
- ***Maintenance and Public Support:*** Once the software is deployed in the field to the end users, it is required to provide maintenance and public support until the risk and defect is founded to be negligible. There are three types of maintenance i.e., Corrective maintenance, Adaptive maintenance, Perfective maintenance.

(16)Explain phases of the waterfall model.

The phases in waterfall model are same as that of SDLC. In this model, there is no going back once you pass through each individual phase. That means it is used for the project where requirements of the client are crystal clear in nature and there exists no chance of changing requirement once the life cycle begins. Here requirements are frozen in the first phase of life cycle.

(17)Write phases of the spiral mode.

Spiral model consists of 4 phases of Software development. The phases are Planning, Risk analysis, Engineering, Customer evaluation. Spiral model was the widely used development model in the software industry as it has the characteristics for natural development of software.

(18)Write agile manifesto principles.

There are 4 Agile manifestos. They are Individual interaction Customer collaboration, working software, Changing requirements.

(19)Explain working methodology of Agile model. Also write Pros and Cons.

Agile in contemporary period is the mostly used development model in the entire software industry. Basically, Agile is the combination of Interaction and Incremental model which mainly focuses on the small incremental builds.

In this methodology, the entire project is divided into small individual and incremental builds and integration. Here, major information is gathered in the early life cycle phase and development is started early and the basic working software is deployed to the market. With each build/ iteration, new feature and facility is provided.

Agile is considered to be the best realistic approach to software development. It works on the agenda that each project requires different type of treatment as no two projects are same and implements accordingly.

PROS:

- Rapid delivery of working software model.
- Flexibility to developers.
- Flexibility to changing requirements.
- Less risky in compare to other models, as it goes through various testing phases.
- Minimum/ Low documentation.

CONS:

- Requires more man power resources due to long and complex projects.
- Requires skilled Agile leader and Agile project manager.
- More complex management as project are complex and long term.
- High dependency on customer interaction.