ASSIGNMENT-1

1> What is SDLC?

-SDLC is a structure imposed on the development of a software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance and support.
-There are a number of different development models.

2> What is software Testing?

-Software testing is a process used to identify the correctness, completeness and quality of developed computer software.

3> What is agile methodology?

-Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product.

-Every iteration involves cross functional teams working simultaneously on various a reas like planning, requirements analysis, design, coding, unit testing, and acceptance testing.

4> What is SRS?

-A software requirements specification (SRS) is a complete description of the behavior of the system to be developed.

-Non-functional requirements are requirements which impose constraints on the design or implementation (such as performance requirements, quality standards, or design constraints).

-Recommended approaches for the specification of software requirements are described by **IEEE 830-1998**.

5> What is oops?

-Identifying **objects** and assigning **responsibilities** to these objects.

-Objects communicate to other objects by sending **messages**.

-An object is like a black box.

-The internal details are hidden.

6>Write Basic Concepts of oops.

-Object

-Class

-Encapsulation

-Inheritance

-Polymorphism

-Overriding

-Overloading

-Abstraction

7>What is object?

-An object represents an individual, identifiable item, unit, or entity, either real or abstract, with a well-defined role in the problem domain.

-That is both data and function that operate on data are bundled as a unit called as object.

8>What is class?

9>What is encapsulation?

-Encapsulation is the practice of including in an object everything it needs hidden from other objects. The internal state is usually not accessible by other objects.

-Encapsulate in plain English means *to enclose or be enclosed in or as if in a capsule*. In Java, a class is the capsule (or unit).

10>What is inheritance?

-Inheritance means that one class inherits the characteristics of another class. This is also called a “is a” relationship.

-One of the most useful aspects of object-oriented programming is code reusability. As the name suggests Inheritance is the process of forming a new class from an existing class that is from the existing class called as base class, new class is formed called as derived class.

-This is a very important concept of object-oriented programming since this feature helps to reduce the code size.

11>Write SDLC phases with basic introduction.

-SDLC is a structure imposed on the development of a software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance and support. There are a number of different development models.

-A Software Development Life Cycle is essentially a series of steps, or phases, that provide a model for the development and lifecycle management of an application or piece of software.

-SDLC Phases:

Requirements Collection/Gathering	Establish Customer Needs
Analysis	Model And Specify the requirements- “What”
Design	Model And Specify a Solution – “Why”
Implementation	Construct a Solution In Software
Testing	Validate the solution against the requirements
Maintenance	Repair defects and adapt the solution to the new requirements

#1) Requirement Gathering and Analysis

During this phase, all the relevant information is collected from the customer to develop a product as per their expectation. Any ambiguities must be resolved in this phase only.

#2) Design

In this phase, the requirement gathered in the SRS document is used as an input and software architecture that is used for implementing system development is derived.

#3) Implementation or Coding

Implementation/Coding starts once the developer gets the Design document. The Software design is translated into source code. All the components of the software are implemented in this phase.

#4) Testing

Testing starts once the coding is complete and the modules are released for testing. In this phase, the developed software is tested thoroughly and any defects found are assigned to developers to get them fixed.

Retesting, regression testing is done until the point at which the software is as per the customer's expectation. Testers refer SRS document to make sure that the software is as per the customer's standard.

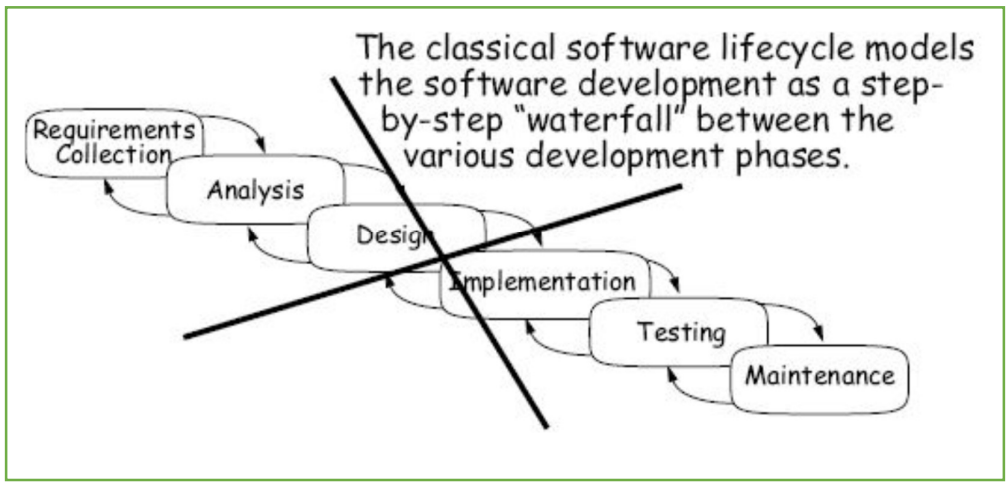
#5) Deployment

Once the product is tested, it is deployed in the production environment or first UAT is done depending on the customer expectation.
In the case of UAT, a replica of the production environment is created and the customer along with the developers does the testing. If the customer finds the application as expected, then sign off is provided by the customer to go live.

#6) Maintenance

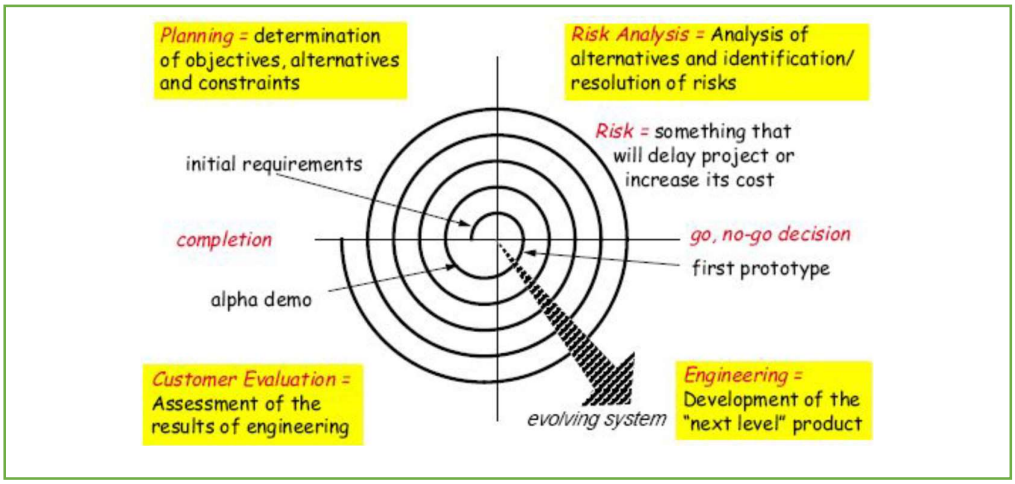
After the deployment of a product on the production environment, maintenance of the product i.e. if any issue comes up and needs to be fixed or any enhancement is to be done is taken care by the developers.

12> Explain Phases of the waterfall mode.



13> Write phases of spiral model.

Spiral model is one of the most important Software Development Life Cycle models, which provides support for **Risk Handling**. In its diagrammatic representation, it looks like a spiral with many loops. The exact number of loops of the spiral is unknown and can vary from project to project. Each loop of the spiral is called a **Phase of the software development process.** The exact number of phases needed to develop the product can be varied by the project manager depending upon the project risks. As the project manager dynamically determines the number of phases, so the project manager has an important role to develop a product using the spiral model.



14> Write agile manifesto principles.

The Agile Manifesto is a document that identifies four key values and 12 principles that its authors believe software developers should use to guide their work. Formally called the *Manifesto for Agile Software Development*, it was produced by 17 developers during an outing on Feb. 11-13, 2001, at The Lodge at Snowbird ski resort in Utah.

15> Explain working methodology of agile model and also write pros and cons.

Agile model is a process of software development (such as other software development methodologies – waterfall model, V-model, iterative model, etc.), however, the Agile development model is also a type of incremental model. Software develops in incremental, rapid cycles. In English, Agile means 'the ability to move quickly and easily' and respond to change rapidly – this is an important aspect of Agile software development.

- **Advantages of Agile Methodology:**

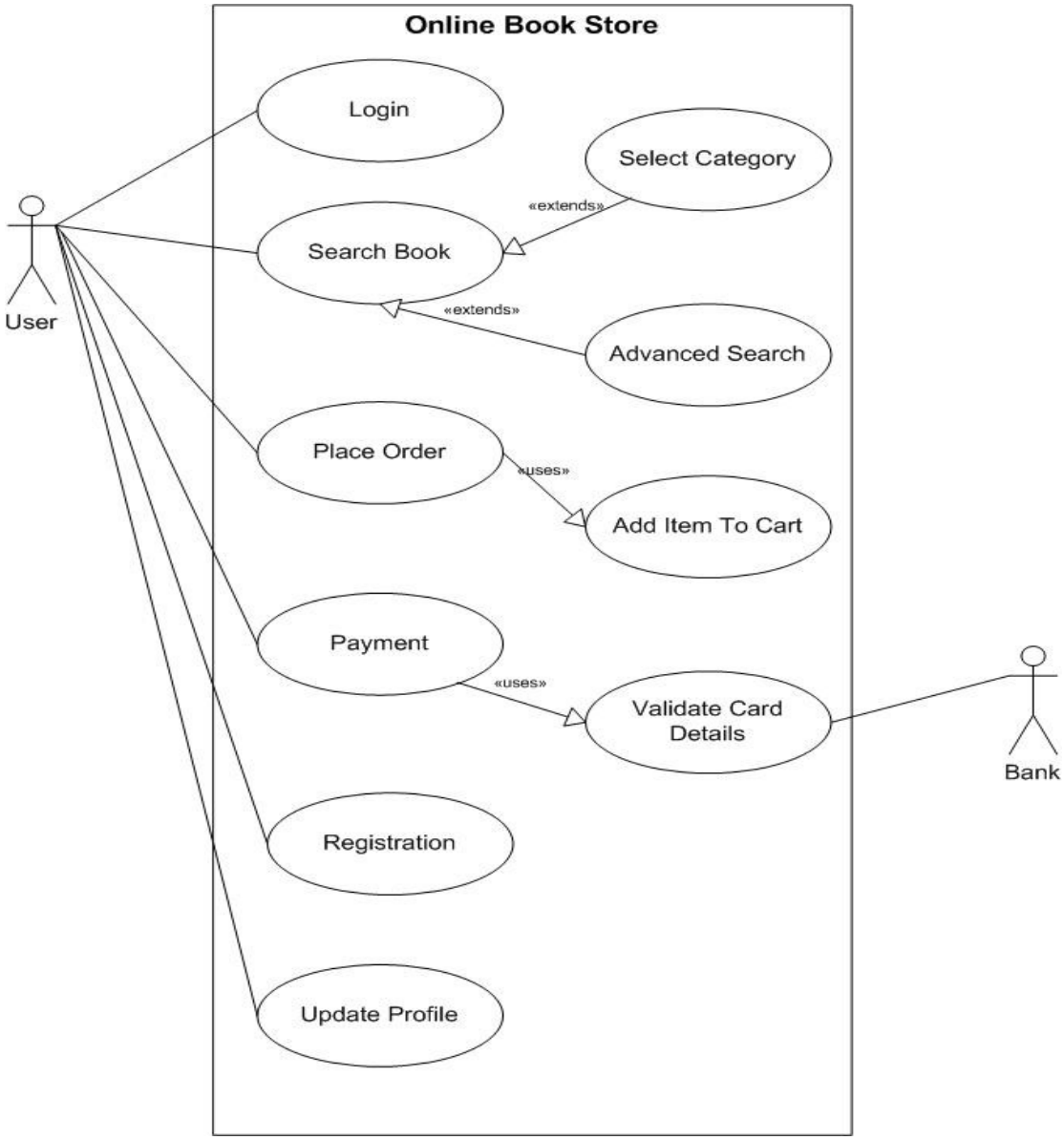
1. In Agile methodology the delivery of software is unremitting.
2. The customers are satisfied because after every Sprint working feature of the software is delivered to them.
3. Customers can have a look of the working feature which fulfilled their expectations.
4. If the customers has any feedback or any change in the feature then it can be accommodated in the current release of the product.
5. In Agile methodology the daily interactions are required between the business people and the developers.
6. In this methodology attention is paid to the good design of the product.
7. Changes in the requirements are accepted even in the later stages of the development.
8. An Agile/Scrum approach can improve organizational synergy by breaking down organizational barriers and developing a spirit of trust and partnership around organizational goals.

- **Disadvantages of the Agile Methodology:**

1. In Agile methodology the documentation is less.
2. Sometimes in Agile methodology the requirement is not very clear hence it's difficult to predict the expected result.
3. In few of the projects at the starting of the software development life cycle it's difficult to estimate the actual effort required.

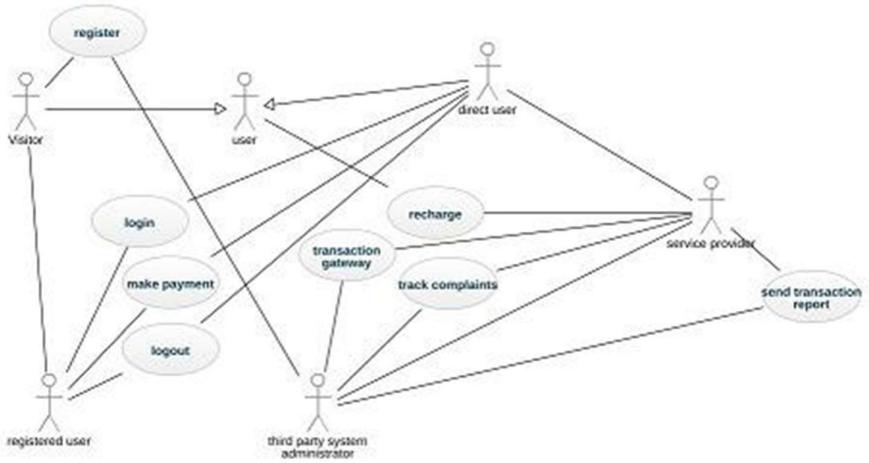
4. Because of the ever-evolving features, there is always a risk of the ever-lasting project.
5. For complex projects, the resource requirement and effort are difficult to estimate.

17> Draw Use case on online book shopping?



18> Draw use case on Online shopping product using COD.


ONLINE SHOPPING PRODUCT WITH COD
Register
Log In /log out
update account
Serch Product
Add product Cart
Add shipping information
Place Order
Add Category
Modify cart
B/U Accounts
Add Product
Cash on Delivery
CUSTOMER
ADMIN


register
Visitor
user
direct user
login
recharge
service provider
transaction gateway
make payment
track complaints
send transaction report
logout
registered user
third party system administrator

Use Case Diagram for Online Shopping Website