Software Testing Assignment

Module–1(Fundamental)

1) What is SDLC ?

- The software development lifecycle (SDLC) is the cost effective and time efficient process that development teams use to design and build high quality software.

- 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.

2) What is software testing ?

- Testing is the process of evaluating a system or its component with the intent to find that whether it satisfies the specified requirements or not.

- testing is executing a system in order to identify any gaps, errors or missing requirements in contrary to the actual desire or requirements.

3) What is agile methodology ?

- The Agile methodology is a way to manage a project by breaking it up into several phases.

- It involves constant collabration with stakeholders and continuous improvement at every stage. Once the work begins, teams cycle through a process of planning, executing, and evaluating.

4) What is SRS ?

- A software requirement specification (SRS) is a document that describes what the software will do and how it will be expected to perform.

* Types of requirement :

-Customer Requirements

-Functional Requirements

-Non-Functional Requirements

5) What is oops ?

- Object oriented programming is a based on the concept of "object", which can contain data and code.

- Identifying objects and assigning responsibilities to these objects.- Objects communicate to other objects by sending messages. - Messages are received by the methods of an object

6) Write Basic Concepts of oops

- Object

- Class

- Encapsulation

- Inheritance

- Polymorphism

- 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.

- Object = Data + Methods

8) What is class ?

- A class is a way of organizing information about a type of data so a programmer can reuse elements when making multiple instances of that data type

- Ex : if a programmer wanted to make three cars , maybe a bmw, ferrari nd ford.

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.

10) What is inheritance ?

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

- In general, Java supports single-parent, multiple-children inheritance and multilevel inheritance (Grandparent-> Parent -> Child) for classes and interfaces. Java supports multiple inheritances (multiple parents, single child) only through interfaces.

- For example consider a Vehicle parent class and its child class Car.

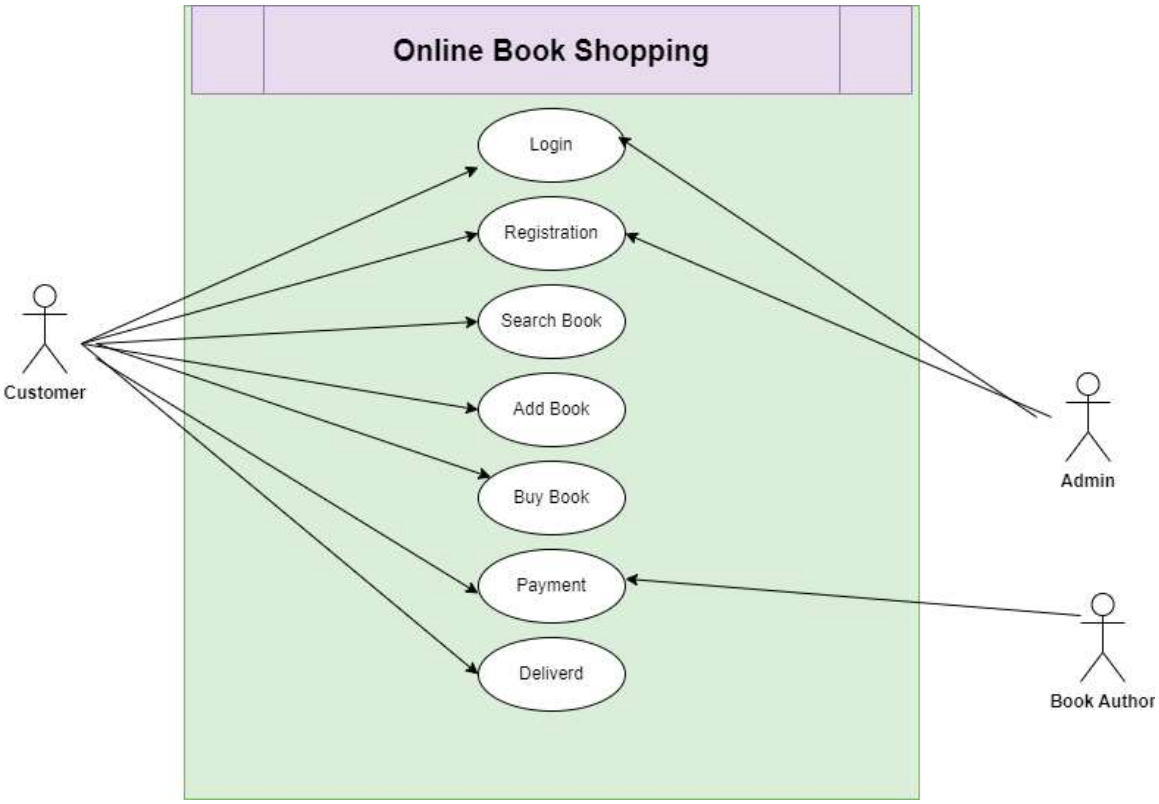
11) What is polymorphism ?

- Polymorphism means “having many forms”.

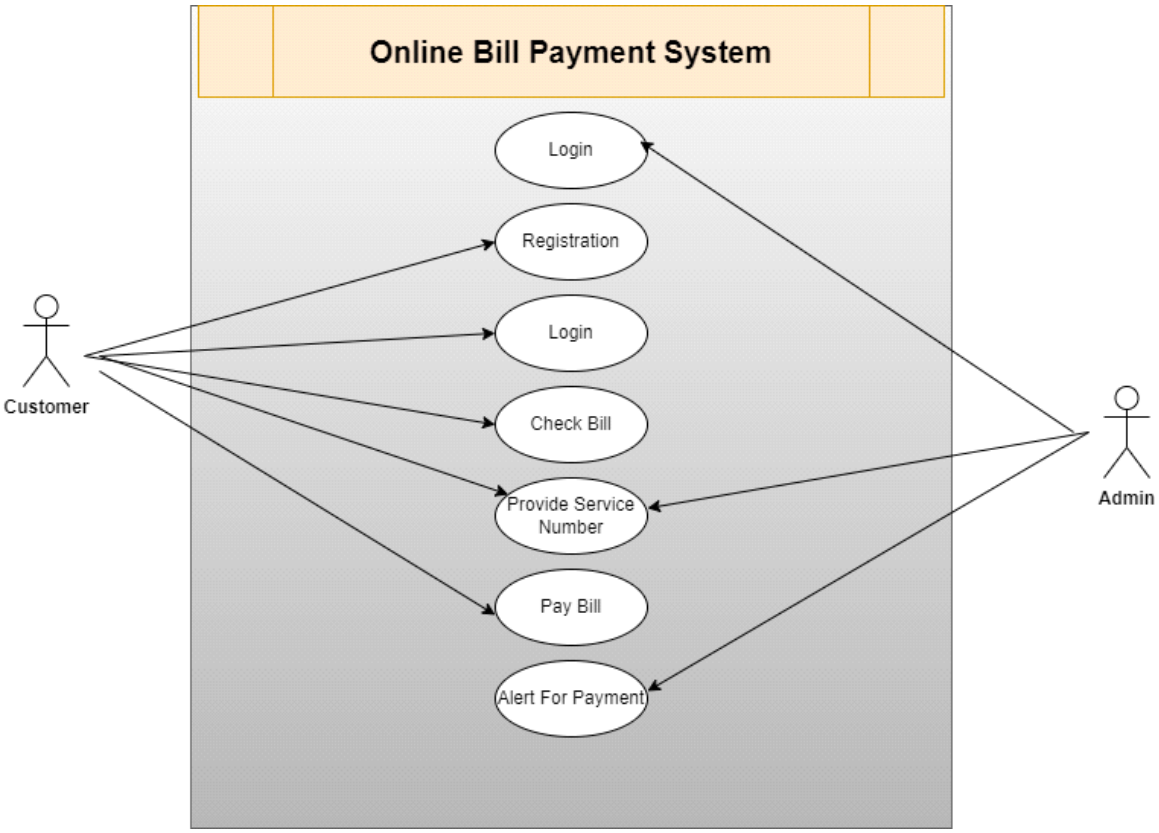
- It allows different objects to respond to the same message in different ways, the response specific to the type of the object.

12) Draw Usecase on Online book shopping

-



13) Draw Usecase on online bill payment system (paytm)



14) Write SDLC phases with basic introduction

* Requirements :

- Planning for the quality assurance requirement 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.

* Analysis :

- The analysis phase defines the requirements of the system, independent of how these requirements will be accomplished.

- The deliverable result at the end of this phase is a requirement document.

* 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.

* Implementation :

- The software design is translated into source code. All the components of the software are implemented in this phase.

* Testing :

- In this phase the developed sofware is tested thoroughly and defect found are assigned to developers to get them fixed.

* Maintenance :

- Software maintenance is one of the activities in software engineering, and is the process of enhancing and optimizing deployed software as well as fixing defects.

15) Explain Phases of the waterfall model

* Requirement Gathering and analysis :

- All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

* System Design :

- The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture.

* Implementation :

- With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

* Integration and Testing :

- All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

* Deployment of system :

- Once the functional and non-functional testing is done; the product is deployed in the customer environment or released into the market.

* Maintenance :

- There are some issues which come up in the client environment. To fix those issues, patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment.

16) Write phases of spiral model

- Identify objectives

- Risk analysis

- Product development

- Planning or evaluation

17) Explain working methodology of agile model and also write pros and cons.

- 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.

- Agile Methods break the product into small incremental builds.

- Each iteration typically lasts from about one to three weeks.

- Every iteration involves cross functional teams working simultaneously on various areas like planning, requirements analysis,

  design, coding, unit testing, and acceptance testing.

* Pros :

- Is a very realistic approach to software development

- Promotes teamwork and cross training.

- Functionality can be developed rapidly and demonstrated.

- Resource requirements are minimum.

- Suitable for fixed or changing requirements

- Delivers early partial working solutions.

- Good model for environments that change steadily.

- Minimal rules, documentation easily employed.

- Enables concurrent development and delivery within an overall planned context.

- Little or no planning required

- Easy to manage

- Gives flexibility to developers

* Cons :

- Not suitable for handling complex dependencies.

- More risk of sustainability, maintainability and extensibility.

- An overall plan, an agile leader and agile PM practice is a must without which it will not work.

- Strict delivery management dictates the scope, functionality to be delivered, and adjustments to meet the deadlines.

- Depends heavily on customer interaction, so if customer is not clear, team can be driven in the wrong direction.

- There is very high individual dependency, since there is minimum documentation generated.

- Transfer of technology to new team members may be quite challenging due to lack of documentation.

18) Write agile manifesto principles

* The Twelve Agile Manifesto Principles:

- Customer satisfaction through early and continuous software delivery

- Accommodate changing requirements throughout the development process

- Frequent delivery of working software

- Collaboration between the business stakeholders and developers throughout the project

- Support, trust, and motivate the people involved

- Enable face-to-face interactions

- Working software is the primary measure of progress

- Agile processes to support a consistent development pace

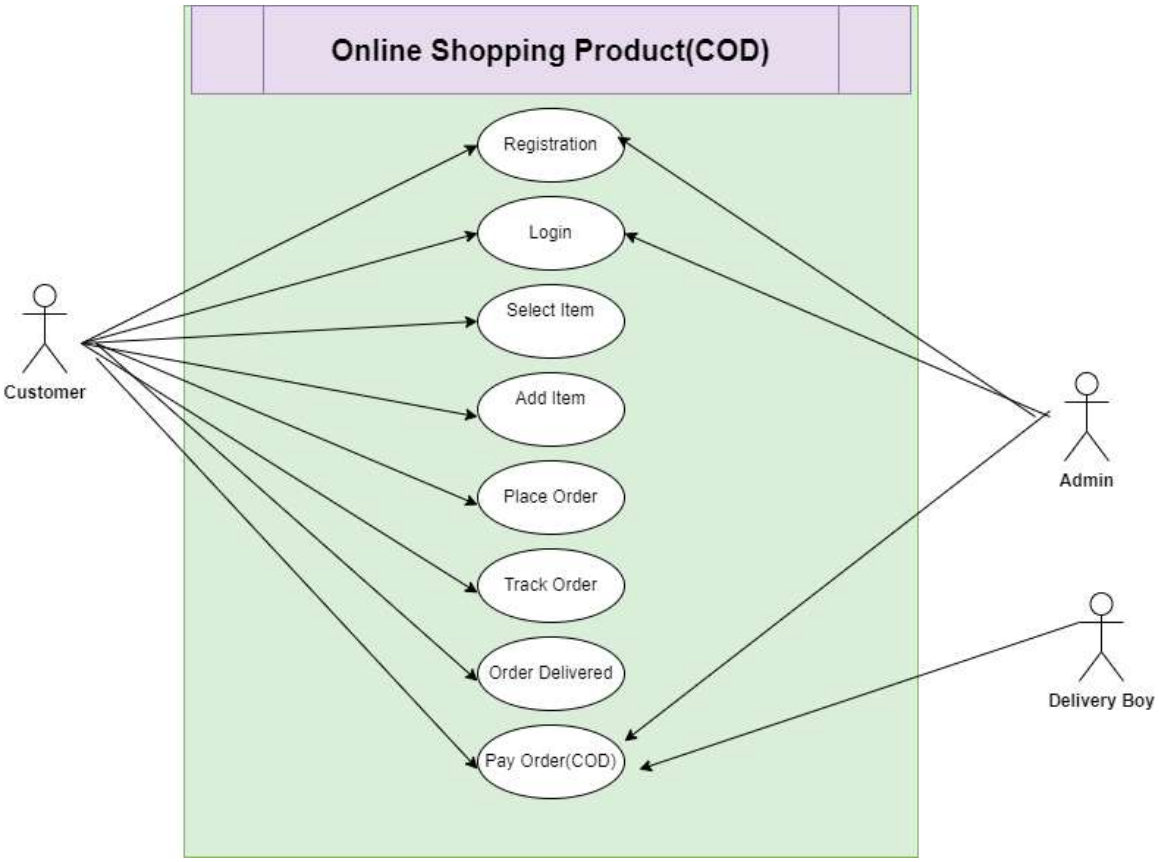
- Attention to technical detail and design enhances agility

- Simplicity

- Self-organizing teams encourage great architectures, requirements, and designs

- Regular reflections on how to become more effective

19) Draw usecase on Online shopping product using COD.



20) Draw usecase on Online shopping product using payment gateway.


Online Shopping Product(Gateway)
Registration
Login
Select Item
Add Item
Place Order
Online Payment
Track Order
Order Deliverd
Customer
Admin
Delivery Boy