MODULE 1

Q. What is Software Testing?

- Software testing is a process of executing system or program in order to identify errors, bugs and missing requirement in contrary to actual or required requirements.

Q. What is Software Development Life Cycle?

- Software development life cycle is a series of steps or phases that provides model of development.
- It is the life cycle for the piece of software or application.

Q. What is Agile Methodology?

- Agile SDLC model is combination of iterative and incremental process models.
- Agile methodology divided software into small incremental build, this build are provided in iteration, that means the big projects are divided into small chunks.
- Each iteration involves all the team members working simultaneously on different areas.
- Each iteration lasts about 1 to 4 weeks.
- At end working product is displayed to customer and after approval is launched into market.

Q. What is SRS ?

- SRS is abbreviation of Software Requirement Specification.
- SRS is complete description of application to be developed.
- SRS contains use case diagrams which describes all the interaction user will have with the software application.

Q. What is OOPS ?

- Object Oriented Programming is way of writing the programs in organized manner.
- Objects are like a black box where data are hidden.

Q. Write Basic concepts of OOPS ?

- Class
- Object
- Inheritance
- Polymorphism
    - Over Ridding
    - Over Loading

- Encapsulation
- Abstraction

Q. What is Object ?

- Object gives permission to access functionality of class.

Q. What is Class ?

- Class Is a collection of data member and member functions.
- For Instance: A = 10, B = 20

Q. What is Encapsulation ?

- The process of wrapping the data in a single unit to secure the data from outside world.

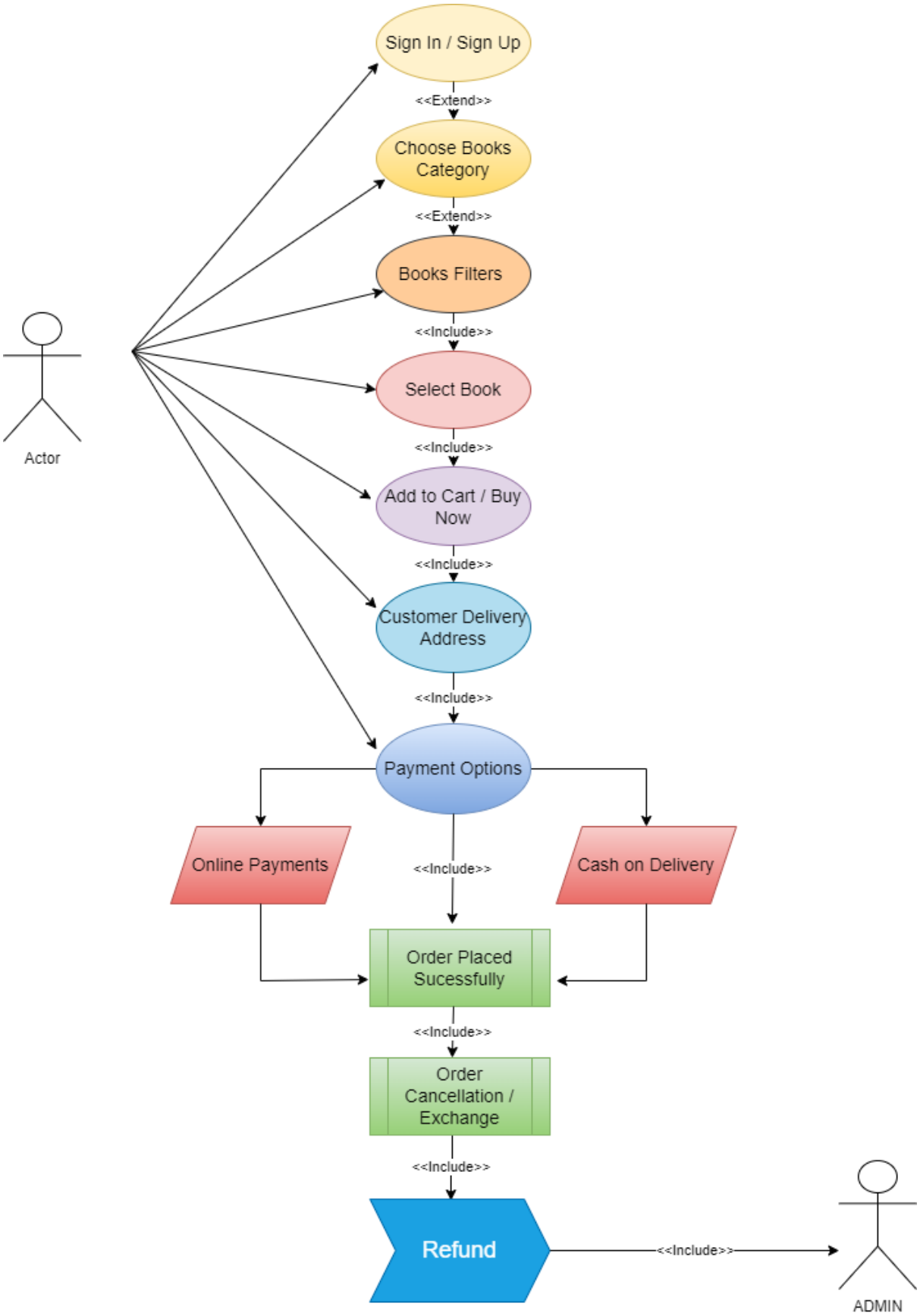
Q. What is Inheritance ?

- Making a class from an existing class, deriving the attribute of some other class.

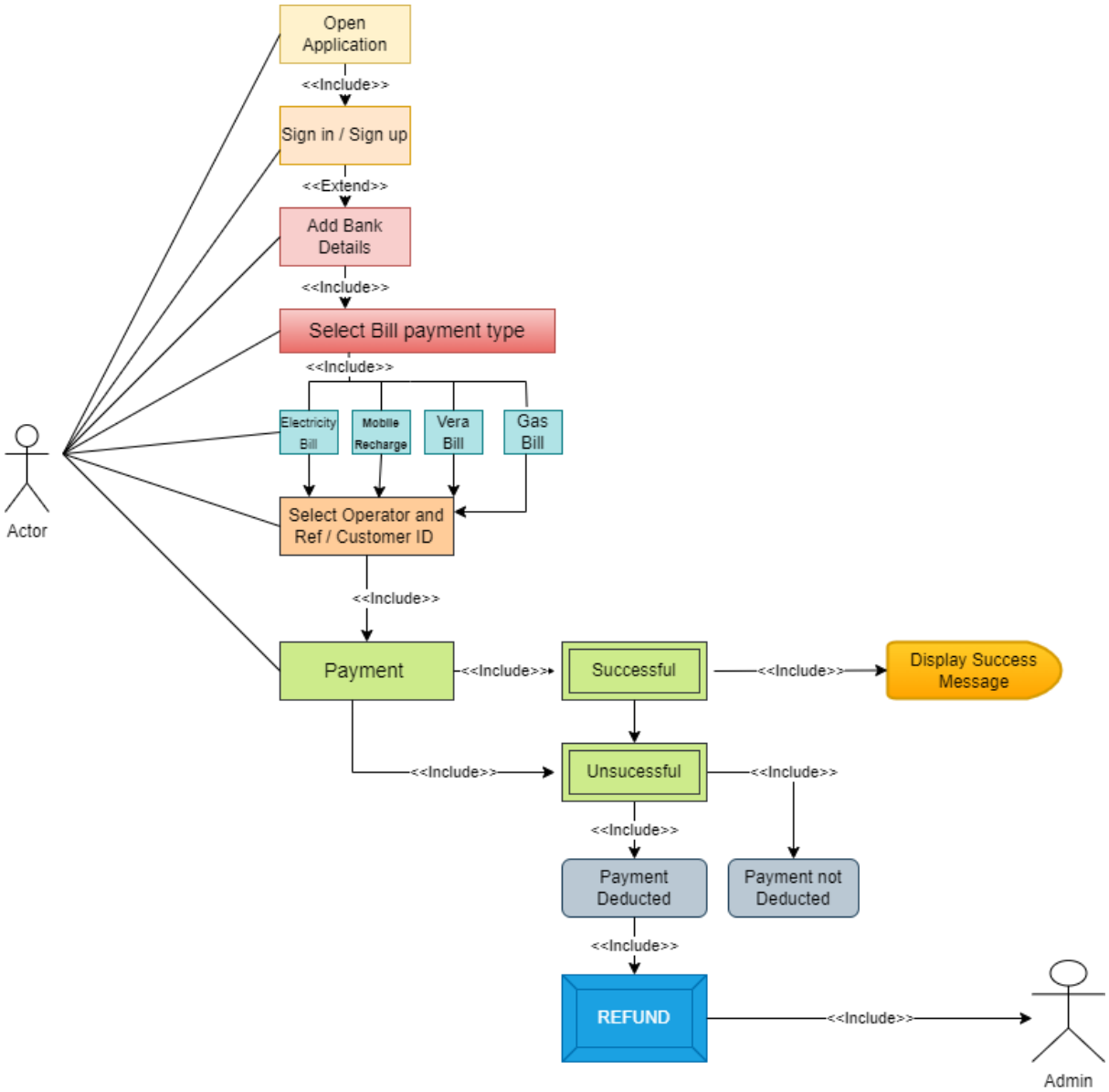
Q. what is Polymorphism ?

- Polymorphism means " having many forms ".
- The ability to change form is polymorphism.
- There is 2 types of polymorphism:
    - Over Ridding
    - Over Loading

Q. Draw use case on online book shopping ?



Q. Draw use case on online bill payment system (paytm)



Q. Write SDLC phases with basic introduction ?

- Software development life cycle is series of steps and stages for model of software development.

Requirement Gathering:

- Customer needs
- Requirements from stakeholders, client, customer, CEO, etc.
- Improvement in Current software
- Where the system will deploy.
- What will be the duration of the project.

Planning / Analysis:

- Details on computer programming languages and environment, machines, packages, application architect, distributed architechture layering, memory size, platform, algorithms, data structure, global type definitions, interfaces and many other engineering details are established.

Design:

- Design architecture document
- Implementation plan
- Critical Priority analysis
- Performance analysis
- Notification navigation component e.g. Search bar, slides, etc
- Elements (button, dropdown, textbox, checkbox, radio button, link, etc.

Implementation:

- In the implementation phase, the team builds the components either from scratch or by composition.
- Implement code
- Critical error removal

Testing:

- We test the build to test for defect.
- We report the defect and get it fixed.
- We retest the build until it fulfills customer requirements.

Deployment:

- Project live then it becomes a product (release)

Maintenance:

- **Corrective Maintenance:** Identifying and repairing defects.
- **Adaptive Maintenance:** Adapting the existing solution to the new platforms.
- **Perfective Maintenance:** Implementing the new requirement.

Q. Explain phases of waterfall model ?

- The waterfall is unrealistic for many reasons especially.
- Requirements must be “frozen” to early in the life cycle.
- Requirements are validated too late.

Applications:

- Requirements are very well documented clean and fixed.
- Product definition is stable.
- Technology is understood and is not dynamic.
- The project is too short.

Pros:

- Simple and easy to understand and use
- Clearly defines stages
- Well understood milestones.
- Easy to arrange tasks.

Cons:

- No working software is produced until late during the life cycle.
- High amount of risk and uncertainity.
- Not a good model for complex and object oriented projects.
- Poor model for long and ongoing projects.

Q. Write phases of spiral model

- When costs there are a budget constraint and risk evaluation is important.
- For medium to high risk projects.
- Customer is not sure of their requirements which are usually the case.

Pros:

- Changing requirements can be accommodated
- Requirements can be capture more accurately.
- Users are seeing the system more easily.

Cons:

- Management is more complex.
- Not suitable for small or low projects and could be expensive for small projects.
- Process is complex.

Q. Write Agile manifesto principles ?

- Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In agile

tasks are divided to time boxes (small time frame) to deliver specific features for release.

- Agile thought process had started early in the software development and started becoming popular with time due to its flexibility and adaptability.

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

- It is a combination of Iterative and increment model.
- It divides the software into small incremental build, this build is provided in Iterations, that means the big projects are divided into small chunks.
- Each Iteration lasts about 1 to 4 weeks.

Pros:

- Frequent delivery.
- Face to face communication with customer.
- Less time
- Adaptability

Cons:

- Less documented.
- Maintenance problem.

Q. Draw use case on online shopping product using COD.

Q. Draw use case on online shopping product using payment gateway.