

Function Requirements

functional requirement help to understand the function of the system.

They are easy to define

functional requirement are mandatory

These requirements are specified by the user

This describe what the product does

It helps us to verify the software's functionality

These requirements are important to system operation

Ex: - System shutdown in case of cyber security

Non-functional Requirements

They help to understand the system's performance

They are hard to define

Non-functional requirements are not mandatory.

These requirements are specified by software developer

They describe the working of product.

It helps us to verify the software's performance.

These are not always the important requirements, they may be desirable

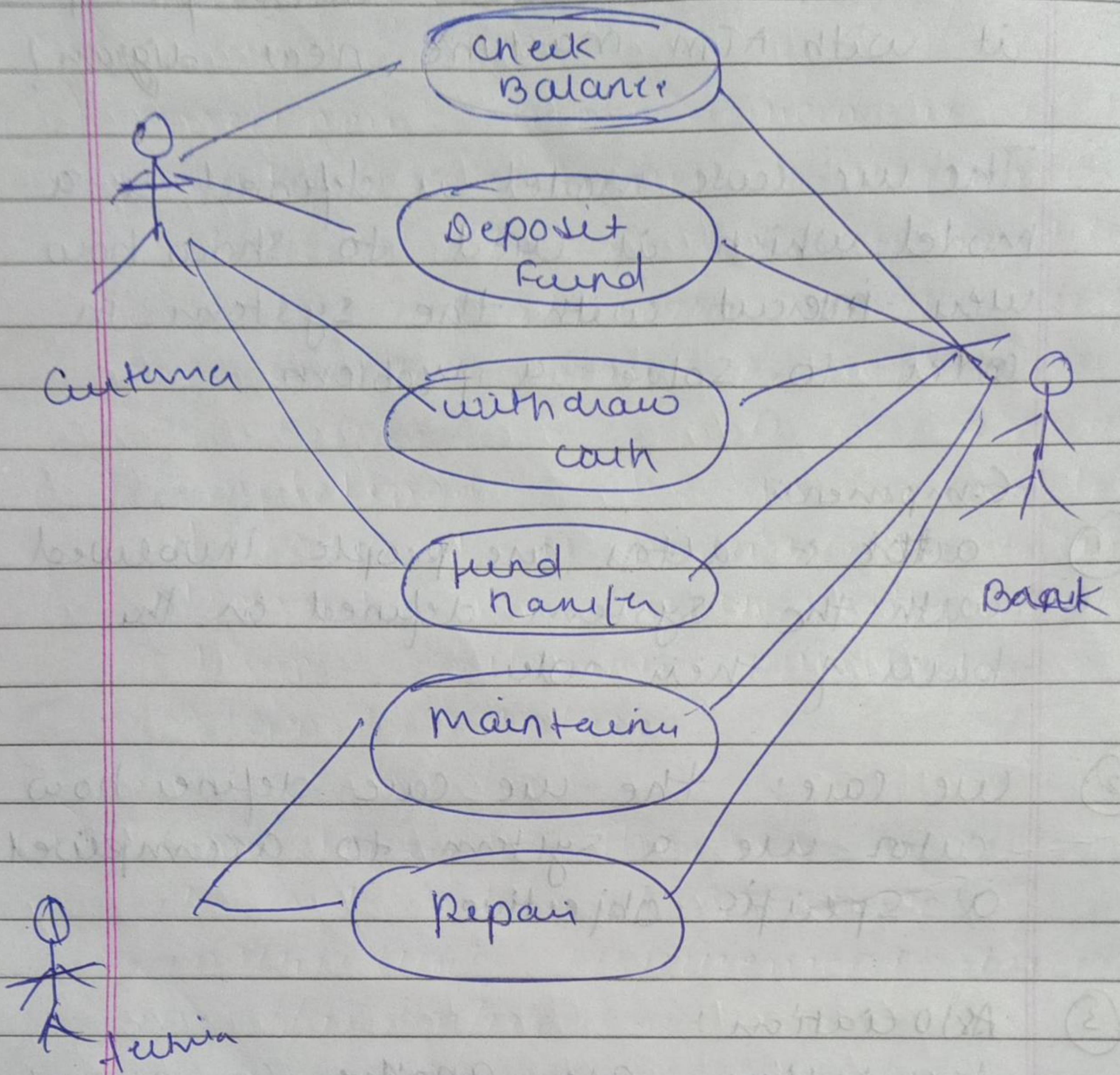
Ex: - The processing of each request should be done within 10 sec

Ques 2 Describe use case modeling. Explain it with ATM machine near diggan?

The use-case model is defined as a model which is used to show how users interact with the system in order to solve a problem.

Components

- ① ~~actor~~ actor :- actors are people involved with the system defined on the basis of their roles.
- ② Use Case :- the use case defines how actor use a system to accomplish a specific objective.
- ③ Association & Association are another component of the basic model. It is used to define the associations among actors and use case they contribute in. this association is called communication association.



Ques 3

What is SRS ? why SRS is needed.
write the characteristics of good SRS

SRS is a software Requirement Specification. SRS is a document that describe what Software will do and how it will be expected to perform. it also describes the functionality the product needs to fulfill and Stakeholder needs.

Need of SRS document

An SRS gives you a computer picture of your entire project. it provides a single source of the truth that every team involved in development will follow. it is your plan of action and keeps all your team - from development to maintenance - on the same page.

Characteristics of good SRS

- ① Correctness & user review is used to provide the accuracy of requirement stated in the SRS. SRS is said to be perfect if it covers all the needs that are expected from the system.
- ② Completeness - The SRS is complete if only if it includes the following element like functionality, performance, design, constraints, attributes & external interface.
- ③ Consistency - The SRS is consistent if and only if no subset of contradictory requirement described in the context.
- ④ Unambiguity - SRS is unambiguous when every fitted requirement has only one interpretation (one meaning only).

(5) Modifiability - SRS should be modifiable as likely and should be capable of quickly obtain changes to the system to some extent. modification should be prefactly ordered and cross-refered.

(6) Testability :- An SRS should be written in such a method that it is simple to generate test cases and test planer from the report

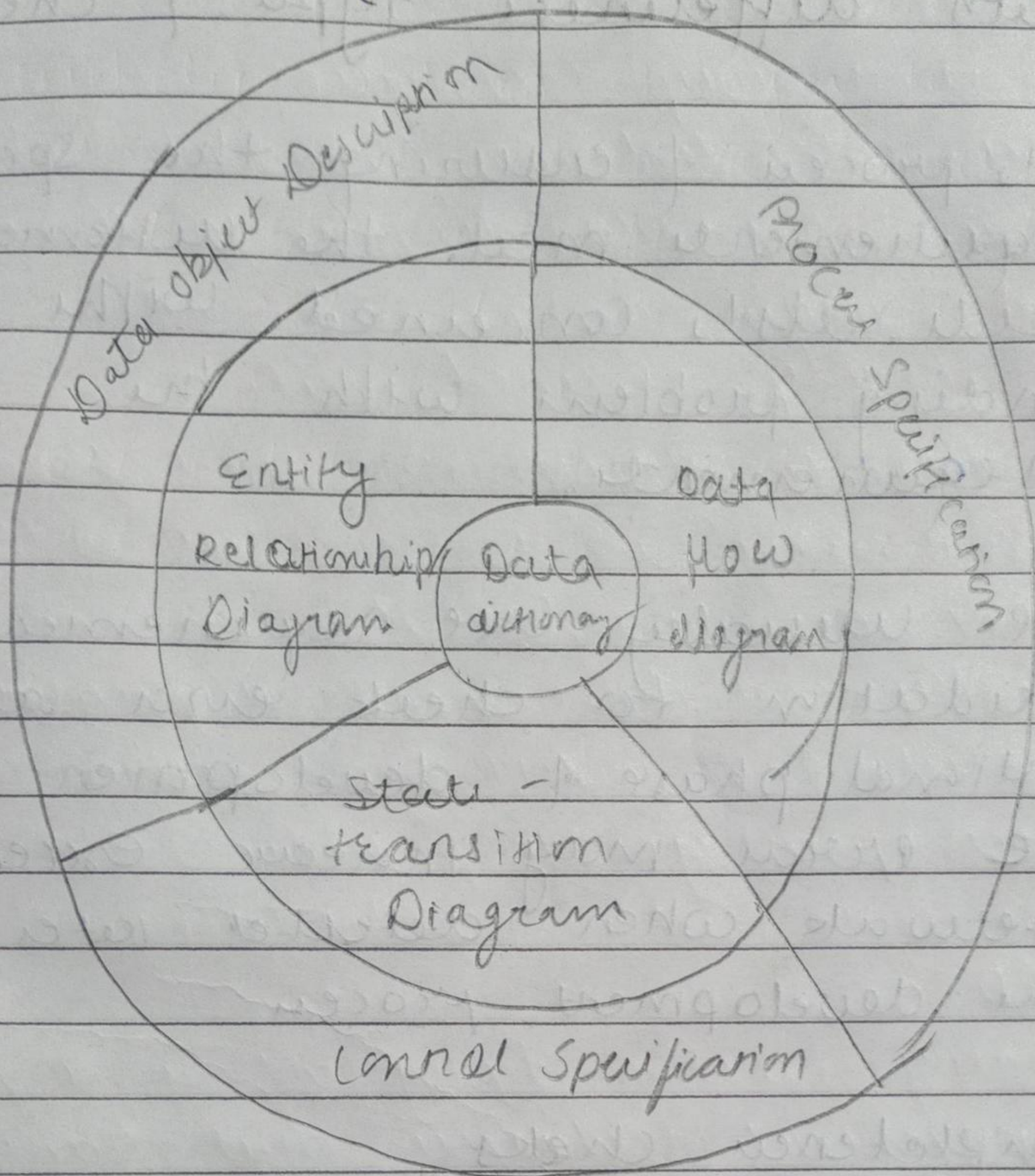
Ques What is analysis Modeling.
write objective.

Analysis model is a technical representation of the system. It acts as a link between system description and design model. In Analysis modelling, information, behaviour, and functions of the system are defined and translated into the architecture, component, and interface level design in the design modelling.

Objective of Analysis modelling

- 1) It must establish a way of creating software design.
- 2) It must describe the requirements of the customer.
- 3) It must define a set of requirements that can be validated, once the software is built.

Elements of Analysis modelling



Ques

Explain requirement validation with different type of checks

It's process of ensuring the specified requirements meet the customer's needs it's concerned with finding problem with the requirements.

We usually use requirements validation to check error at the initial phase of development as the error may increase exponentially if detected later in the development process.

- ① Completeness checks
- ② Consistency checks
- ③ Validity checks
- ④ Realism check
- ⑤ Verifiability check

Ques 6

FAST

Its objective is to bridge the exception gap difference between what the developers think they are supposed to build and what customers think they are going to get.

if team oriented approach is developed for requirement gathering

- part of the environment that surrounds the system.
- product by the system
- used by the system.

Each participant prepares his/her list, different list are then combined, redundant entries are eliminated, team is ~~decided~~ divided into smaller sub-teams to develop mini specification and finally a draft of specification is written down using all the input from the meeting.

Brainstorming

- 1) It is a group technique
- 2) It is intended to generate data of new ideas hence providing a platform to share view.
- 3) A highly trained facilitator is required to handle group bias and group conflict.
- 4) Every idea is documented so that everyone can see it.
- 5) Finally, a document is prepared which consist of the list of requirements and their priority if possible.

QFD

Quality function deployment is a quality Management technique that translates the need of the customer into technical requirements of software.

"Concentrate on maximizing customer satisfaction from the software engineering process"

Three types of Requirement

- 1) Normal requirement
- 2) Expected requirement
- 3) Exciting requirements.

⇒ DFD (Data Flow Diagram)

A graphical tool useful for communication with user, manager and other personnel (it is also called as Bubble Chart)

DFD Element

-) Source / Sinks (External entities)
-) Data flows
-) processes
-) Data Stores

It is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It

can be manual, automated, or a combination of both.

It shows how data enters and leaves the system, what changes the information and where data is stored.

Objective: it shows the scope and boundaries of a system as a whole. It may be used as a communication tool between a system analyst and any person who plays a part in the order that acts as a starting point for redesigning a system.