

1) ~~*~~ What is SRS? what are ch. of good SRS? Explain with example (hospital management sys, college management.)

Ans SRS (S/W req. specifications): It's a doc that outlines functional & non-functional req. of s/w sys. It serves as a communication bridge b/w stakeholder & developer, ensuring final product meets expectation.

* Ch. of good SRS:

- 1) Correctness: Accurately defines req.
- 2) Complete: Covers all req. necessarily
- 3) Consistent: Avoids contradiction
- 4) Modifiable: Allows easy update
- 5) Unambiguous: Clear & free of confusion

Diyuuu :)

Eg: Hospital Management Sys.

Functional req.

- ↳ Allows doctors to view & update patient's record
- ↳ Schedules patient appointment

Non-functional req.

- ↳ The sys. should handle 1000 concurrent users
- ↳ Sys. downtime shouldn't exceed 1%

Eg: College Management Sys.

Functional req.

- ↳ Allows students to file online refills of prescription
- ↳ Generates fee payment reports

Non-functional req.

- ↳ Sys. response time should be under 2 seconds

2) List & explain req. engineering task. Or req. engineering process.

Ans: The process of gathering, analyzing, documenting & managing s/w req.

* Tasks/ Processes:

1) Elicitation: Identify req. from stakeholder
Eg: conducting interviews

2) Analysis: Clarifying & refining req.
Eg: Resolve conflicts b/w departments

3) Specification: Documenting req. in SRS
Eg: Defining all users & sys. for lib. sys.

4) Validation: Ensuring req. meets user needs
Eg: Reviewing req. with hospital stakeholders

5) Management: Handling changes in req.
Eg: Adapting to regulatory updates in college sys.

Q) What is relationship? Explain cardinality & modality with examples.

Ans

A connection b/w 2 or more entities in database is called relationship.

Eg: In college DB, Student is related to course via "enrolled in".

* CARDINALITY: Defines the no. of instances in one entity related to instances in another entity.

1) One-to-one: (1:1): Each student has 1 lib. card
2) One-to-many: (1:N): A teacher teaches class many
3) Many-to-many: (M:N): Students enroll in multiple courses.

* MODALITY: Indicates whether a relationship is optional or mandatory.

1) Optional: A student may/may not have lib. card
2) Mandatory: A book must belong to atleast one category.

Ans

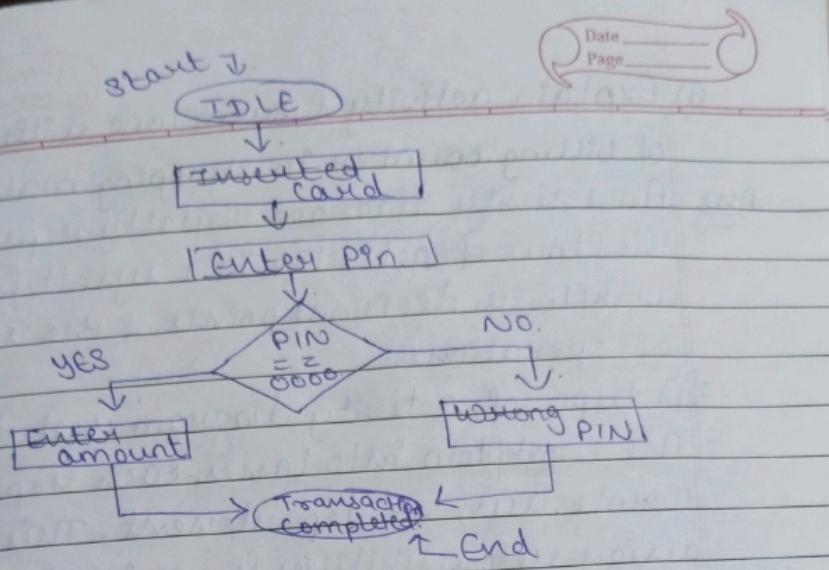
Eg:

4) Explain control flow model with example (state chart).

Ans A representation of states a sys. undergoes & transitions triggered by events or condition.

Eg: ATM sys.

+ States



5) Explain use case with example of (lib. management sys.)

Ans USE CASE : Describes how a user interacts with sys. to achieve goal. It includes actor, goal & a step.

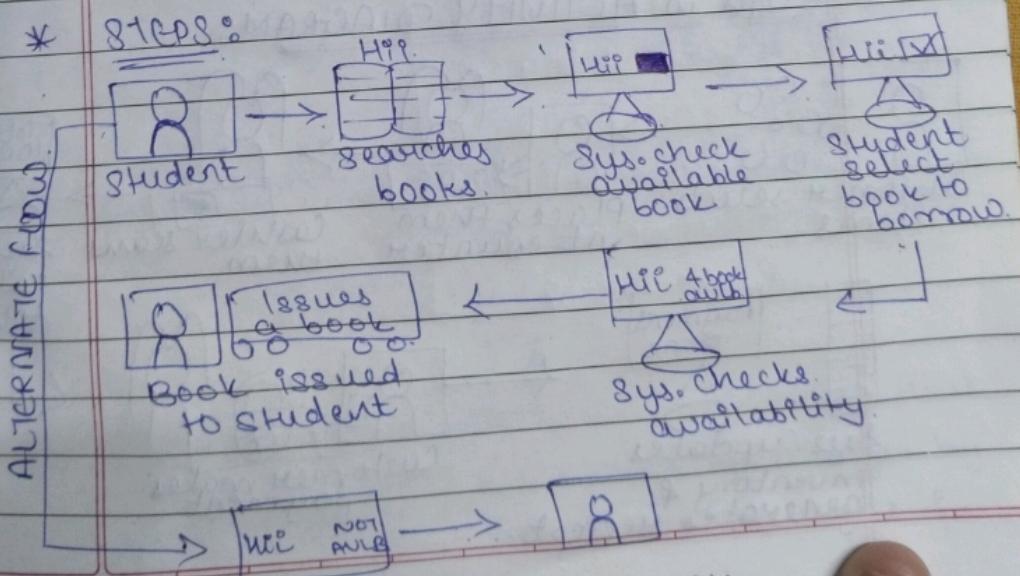
Eg: Library Mgmt. sys.

Use Case Name: Borrow a Book

Actor: Student

Precondition: Student must be registered.

* 81 CPS:



Diyuuu :)

Date _____
Page _____

6) Explain activity & swim lane with example

of billing counter in shopping mall.

Ans) An activity diagram visually represents the flow of activities in a sys. It focuses on workflow, decision points, & the sequence of operations.

2) A type of activity diagram that divides the workflow into lanes, each representing a role, sys, or department. This helps assign responsibilities for each activities.

Eg: Billing counter in Shopping Mall.

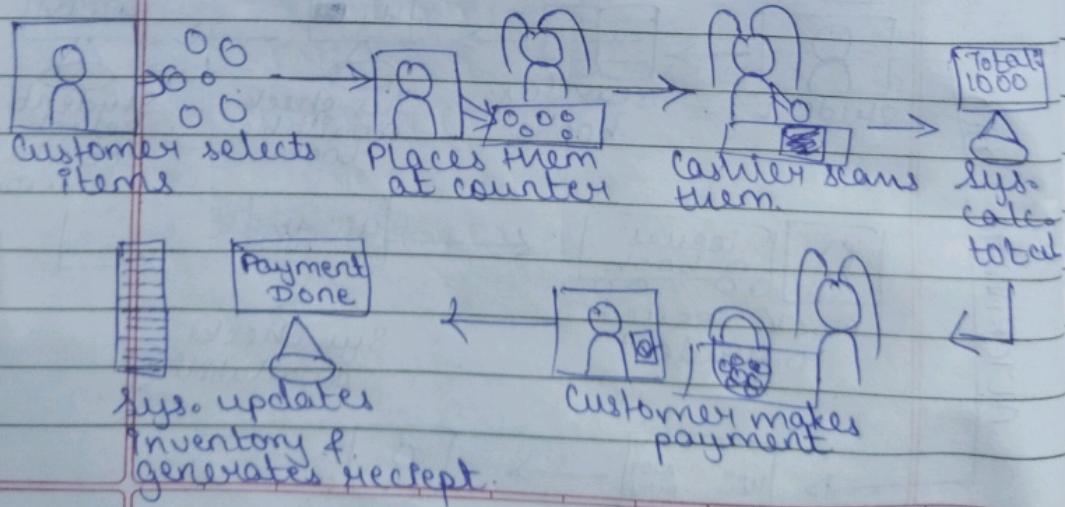
• SWIM LANES:

Lane 1 Customer: Selects item, places them at counter, makes payment.

Lane 2 Cashier: Scans items, calc. total, generates bill, processes payment.

Lane 3 System: Updates inventory, prints receipt.

• Steps in ACTIVITY DIAGRAM:



Date _____
Page _____

with example
mall.
represents
s. It focuses on
the sequence
not divides
representing
This helps
activities.
Mall.

7) Explain DFD with example.

Ans

A Data Flow Diagram visually represents the flow of data in a sys., showing inputs, processes, outputs & storage.

* COMPONENTS:

Entity

Processes

Data stores

Data flows

Eg:-

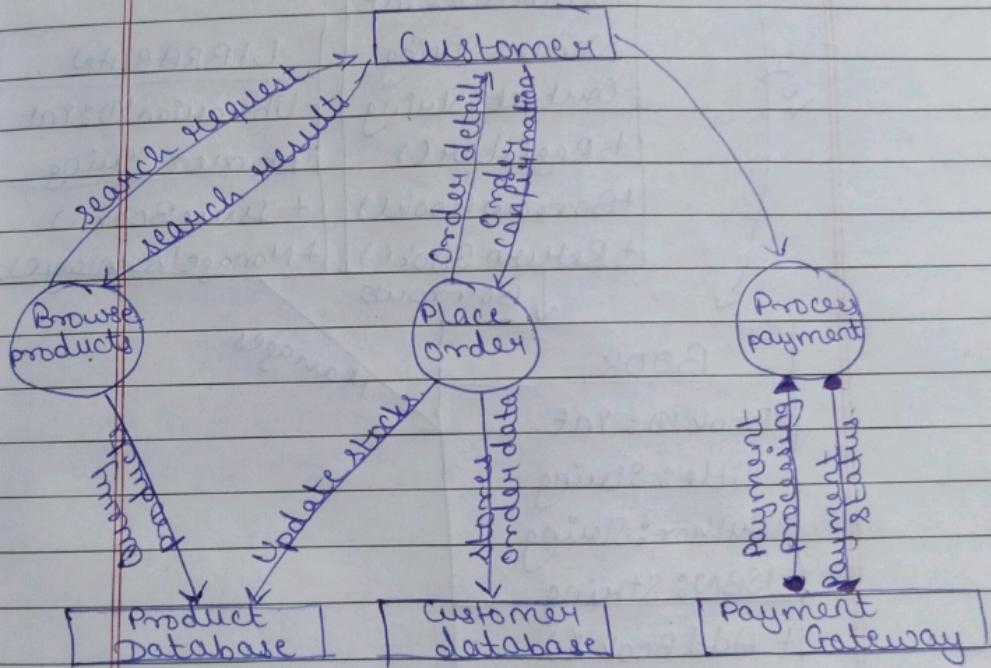
○ : External agents interacting with sys.

□ : Transfers data.

□ : Save data

→ : Indicates movement of data

Online shopping sys. (Level 0 DFD)



8) Explain class diagram of library management system.

Ans

A class diagram is a UML diagram that represents the structure of a sys. by showing classes, attributes, methods & their relationship.

Diyuuu :)

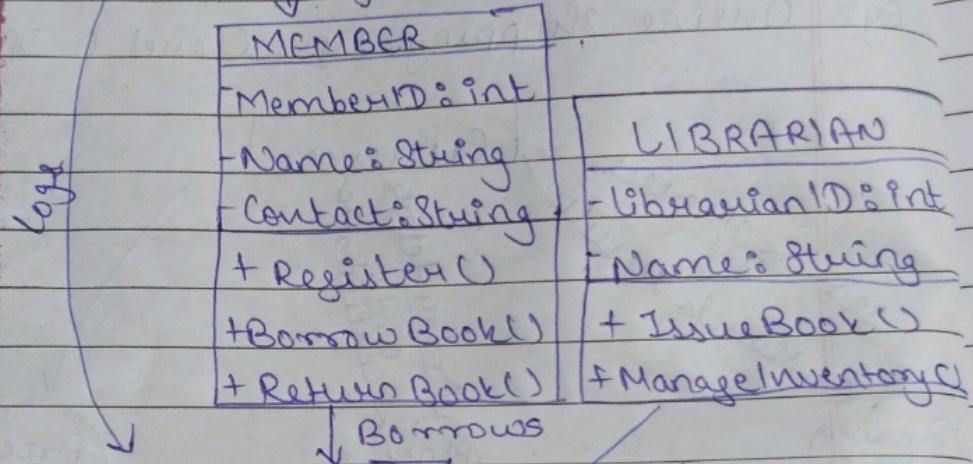
Eg: Library Mgmt Sys.

Date _____
Page _____

TRANSACTION

- TransactionID: int
- Date: date
- BookID: int
- MemberID: int
+ RecordTransaction()
+ GenerateReport()

↓ logs.



BOOK

- BookID: int
- Title: String
- Author: String
- ISBN: String
+ AddBook()
+ RemoveBook()
+ SearchBook()