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VIT AP Online Examination system

what is UML - Diagrams?

An UML - Diagram is a diagram based on the UML (Unified modeling Languages) with the purpose of visually representing a system along with it's main actors, roles, actions, artifacts, classes in order to better understand, alter, maintain or document information about the system.

Types of UML - Diagrams:

→ class diagram
→ sequence diagram
→ Use-case diagram
→ Activity diagram
→ ER - diagram
→ DFD diagram

UML Diagrams of online Examination system

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1) Class Diagram:

The class diagram for online Examination system shows the structures of information or data that will be handled in the system.
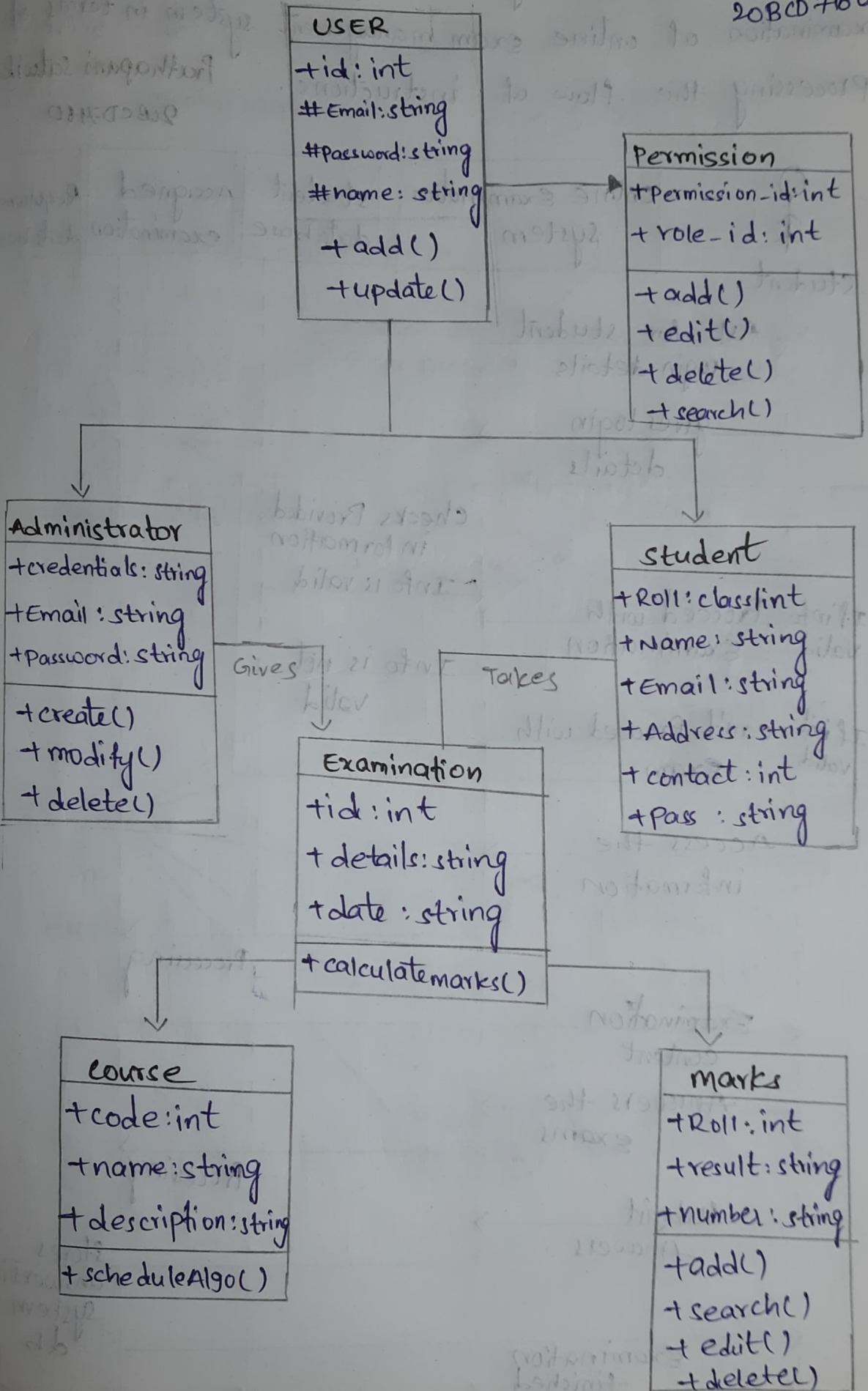
This class diagram was illustrated with 3 partitions

- Partition 1 → contains the class Name
- Partition 2 → contains the attributes in class
- Partition 3 → contains the method of classes we use arrows to represents their relationships.

class - Diagram of online Examination system :-

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USER
+id: int
Email: string
#Password: string
#name: string

+add()
+update()

Permission
+Permission-id: int
+role-id: int

+add()
+edit()
+delete()
+search()

Administrator
+credentials: string
+Email: string
+Password: string

+create()
+modify()
+delete()

Gives

Takes

student
+Roll: classlint
+Name: string
+Email: string
+Address: string
+contact: int
+Pass : string

Examination
+id: int
+details: string
+date: string

+calculatemarks()

course
+code: int
+name: string
+description: string
+scheduleAlgo()

marks
+Roll: int
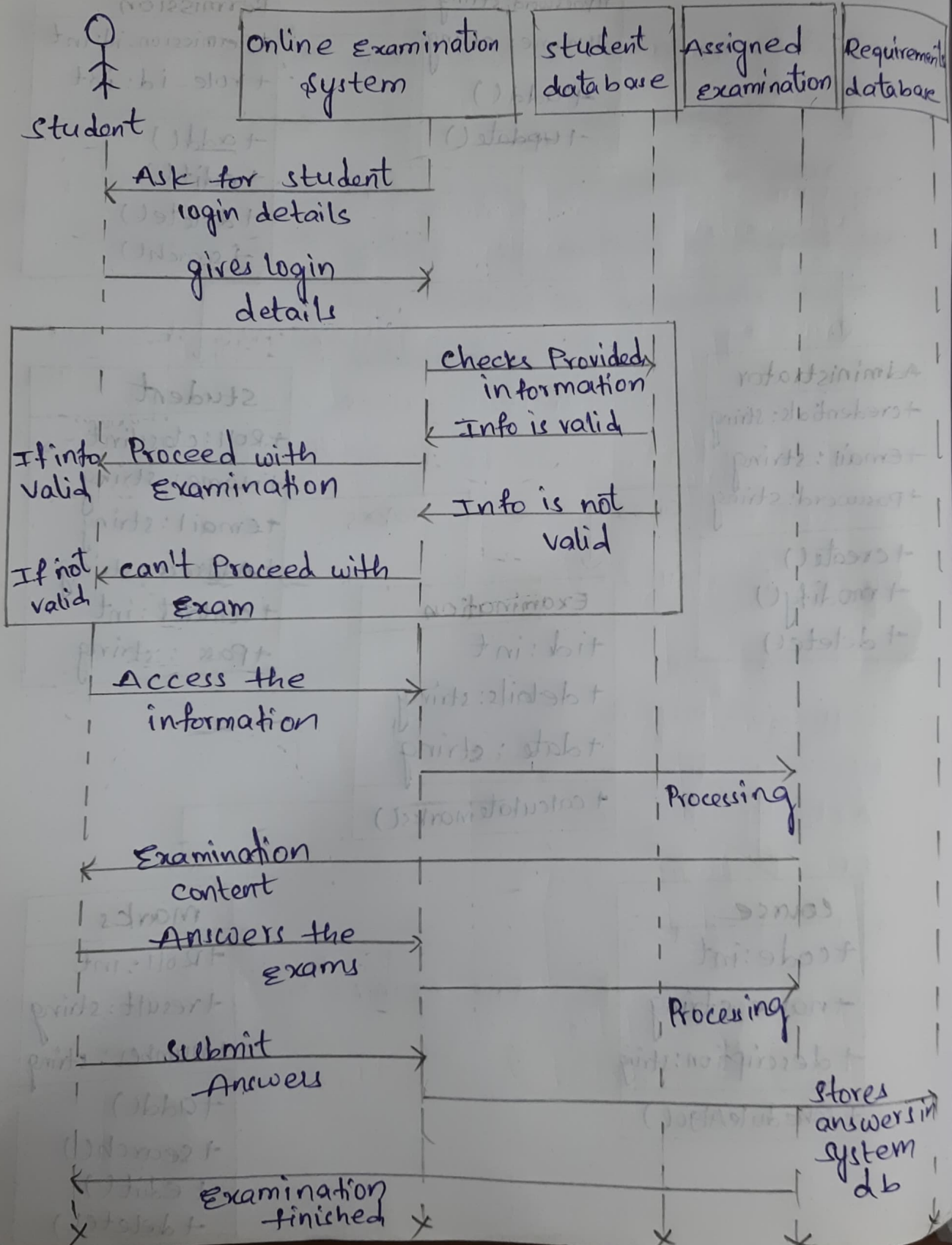+result: string
+number: string

+add()
+search()
+edit()
+delete()

2) Sequence Diagram:

Describes the ends events occurs in online examination system. It gives the clear and detailed examination of online exam management system in terms of processing the flow of instructions.

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Student

Online Examination System | **Student database** | **Assigned examination** | **Requirement database**

- Ask for student login details
- gives login details
- Checks Provided information
- Info is valid
- If info valid → Proceed with Examination
- Info is not valid
- If not valid → can't Proceed with Exam
- Access the information
- Processing
- Examination content
- Answers the exams
- Processing
- Submit Answers
- Stores answers in system db
- Examination finished
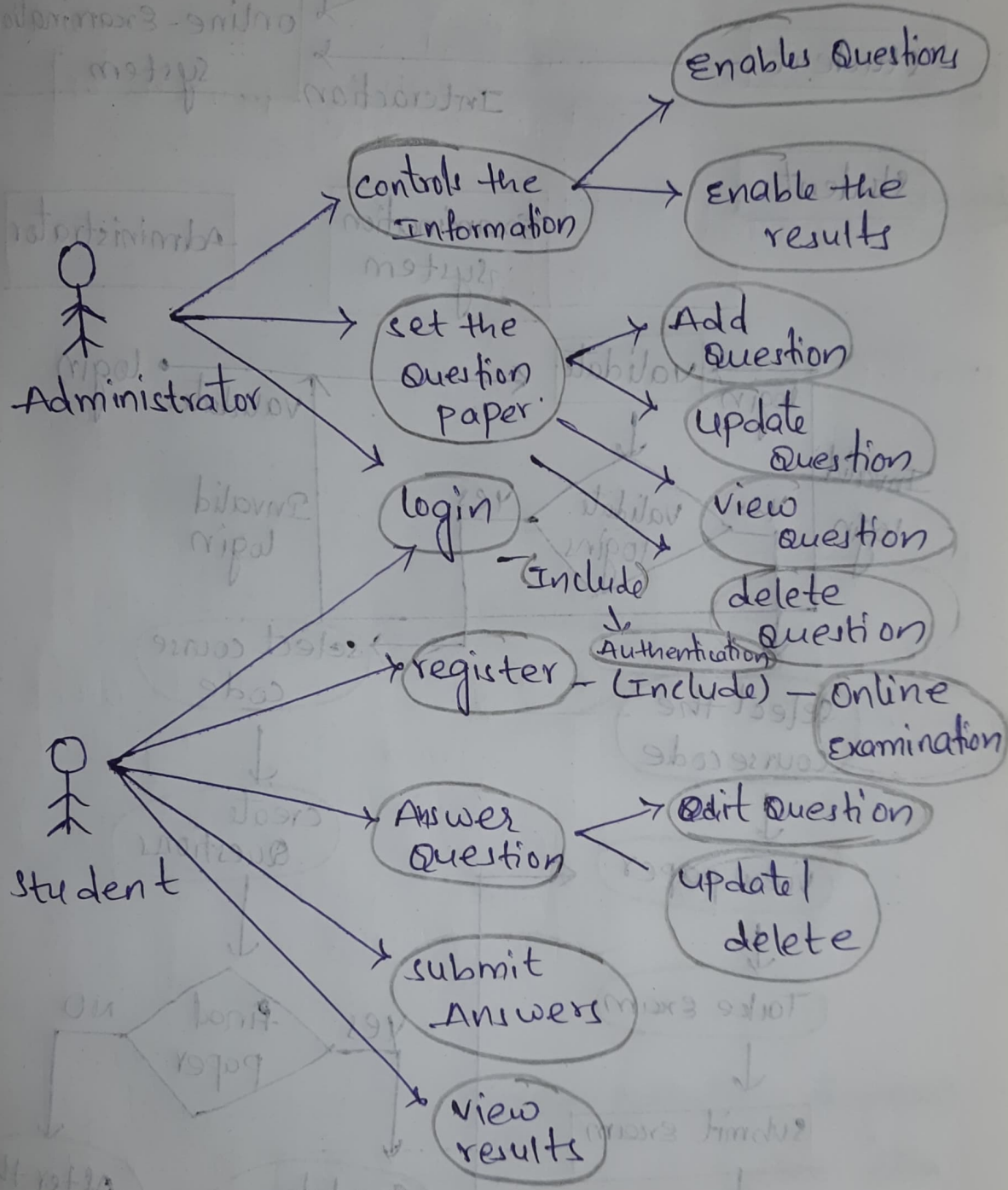
3) **Use case Diagrams:** Use case diagram represents the main process of the Examination system. It will describe the main or general/specific use cases of the online Examination system.

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Enables Questions

Controls the Information → Enable the results

Administrator

set the Question paper → Add Question → update Question

login → view Question

Include → delete Question

register — Authentication (Include) — Online Examination

Student

Answer Question → Edit Question → update/delete

submit Answers

view results

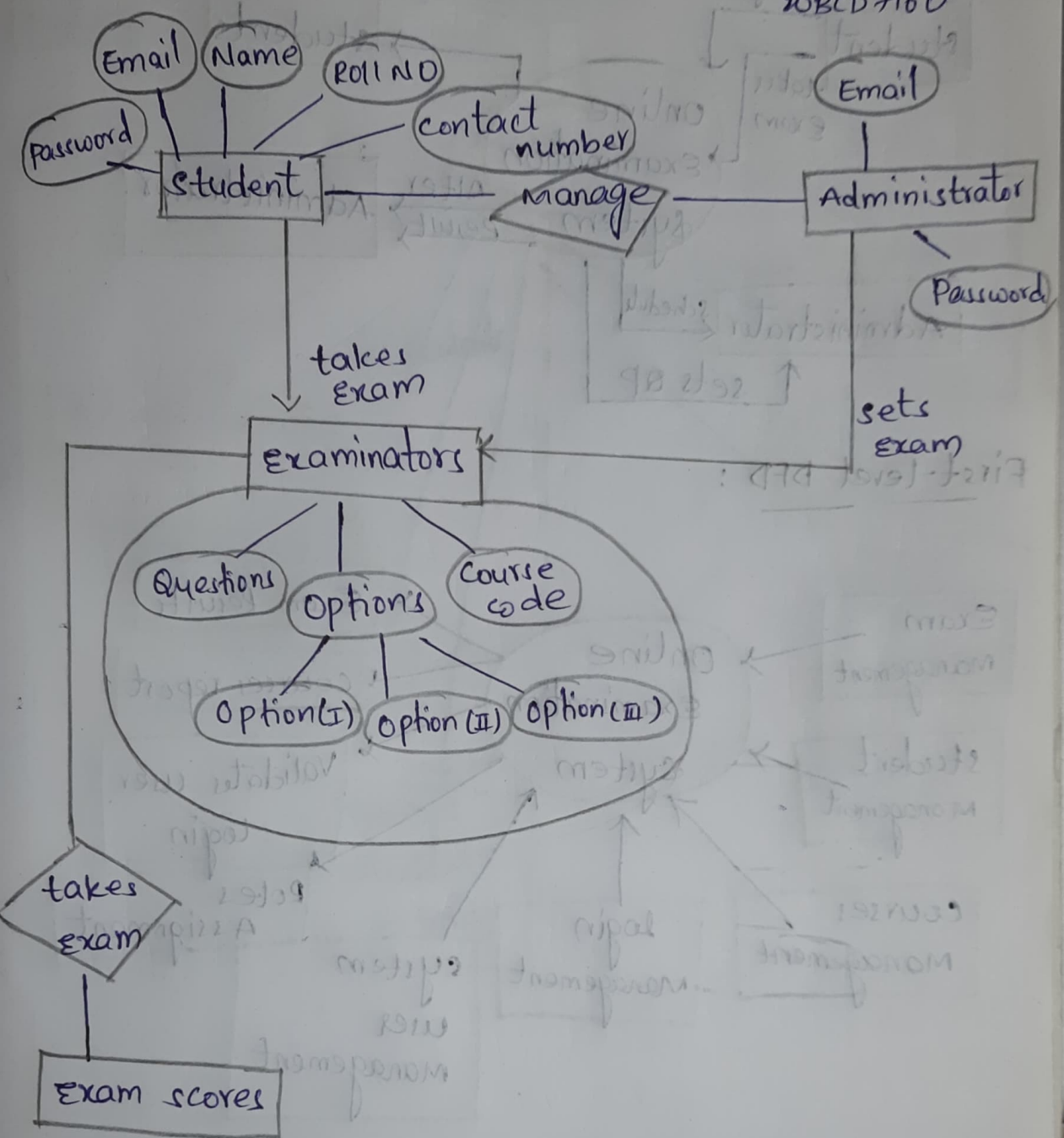4) Activity diagram:- It is used to show the interaction of the user and the system, also helps us to avoid the flow.

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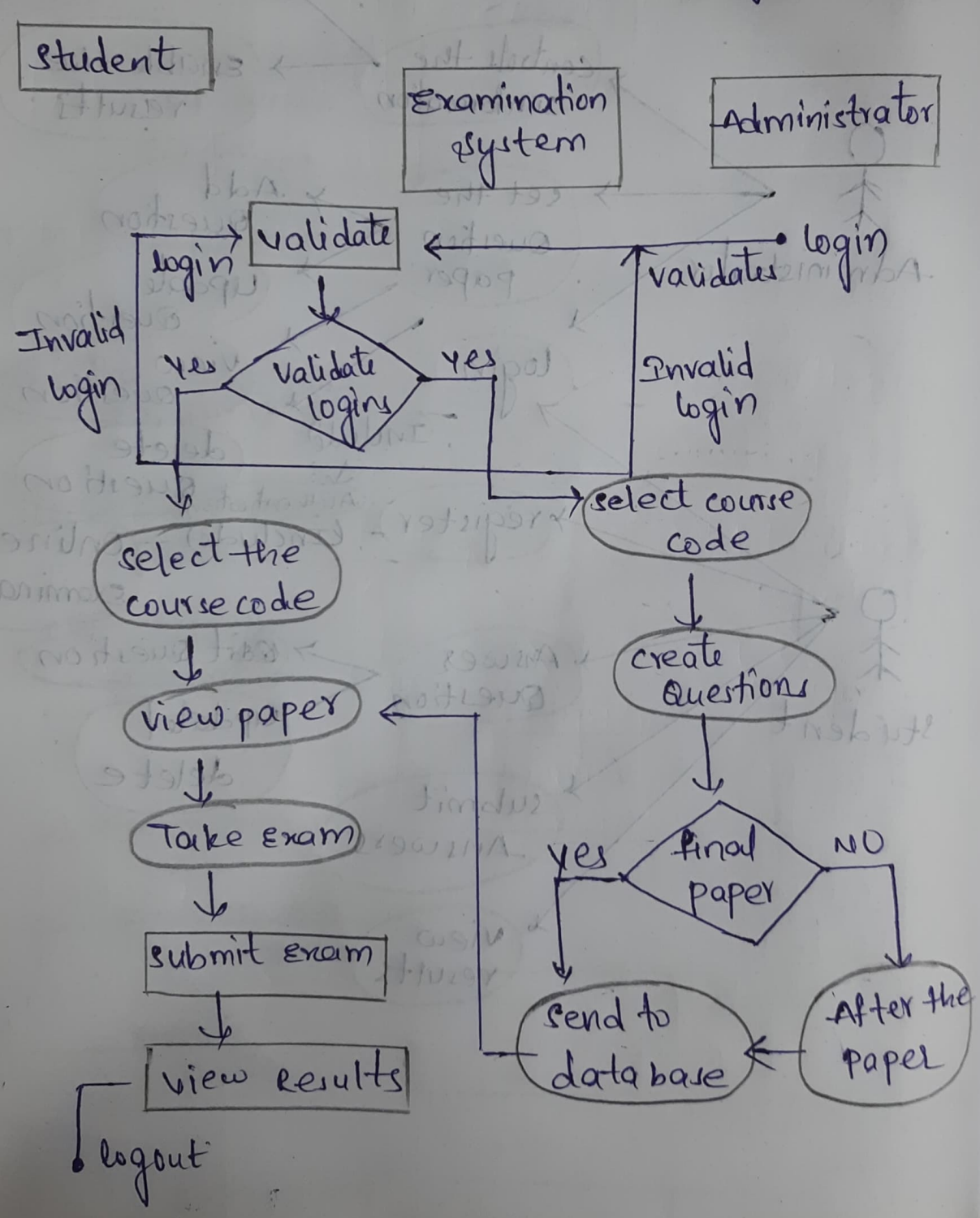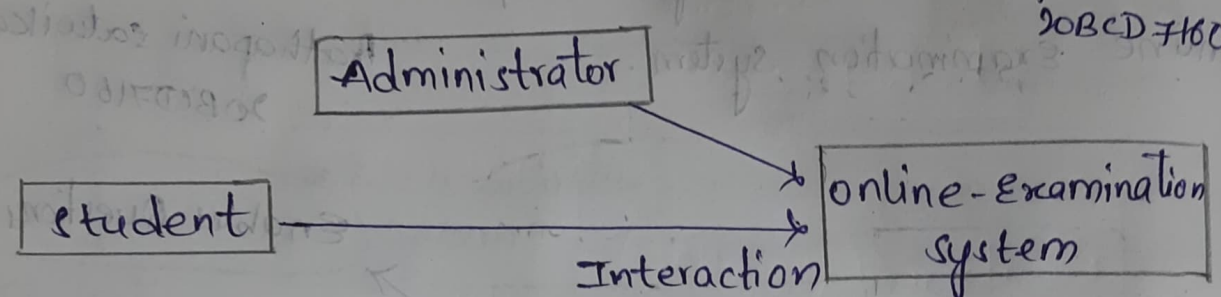
5) ER-Diagrams:

The ER-diagram shows the system database. It secures all the essential data in the system and preserves them.

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ER-Diagram showing: Student entity with attributes Email, Name, Roll NO, Contact number, Password. Administrator entity with attributes Email, Password. "manage" relationship between Student and Administrator. Student "takes exam" connected to Examinators entity with attributes Questions, Options (Option(I), Option(II), Option(III)), Course code. Administrator "sets exam". "takes exam" relationship leading to Exam scores.

6) DFD-diagrams:

DFD-diagram (Dataflow diagram) gives the detailed information about system data hangled. It has levels based upon the system designs.

Context level – (zero level) DFD diagram:

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student → login → online examination system
student → takes exam
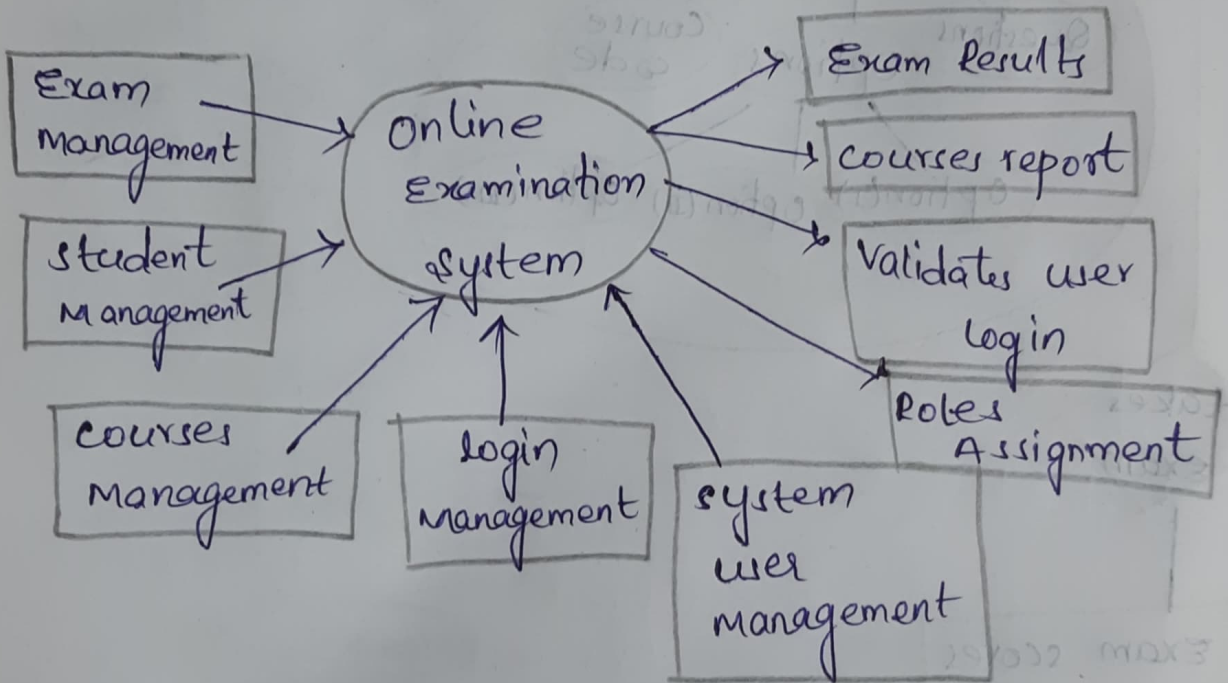online examination system → students
online examination system → Alter results → Administrator
Administrator → schedule
Administrator → sets QP

First-level DFD:

Exam Management → Online Examination System
Student Management → Online Examination System
courses Management → Online Examination System
login Management → Online Examination System
system user management → Online Examination System
Online Examination System → Exam Results
Online Examination System → courses report
Online Examination System → Validates user login
Online Examination System → Roles Assignment

Second level DFD :

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Admin → Login
Student → Login

Login → Check credentials

Check credentials → Check roles of access

Check roles of access → Manage modules

Manage modules → Manage Exam details

Manage modules → Manage course details
for Administrator

Manage modules → Manage Question paper

Manage modules → Manage Results

Manage modules → Manage System Admins

Manage modules → Accessing Exams

for students

Manage modules → Accesing report

Manage modules → Accessing Course details

Manage modules → Manage student details