Project Title: **Exam Management System**

(By SEMESTER – VIII of IV Year M.Sc. (2022))

# Exam Management System

**Group id: 7**

**Name of Organization**: KS School of Business Management

**Submitted by:**

## Group id: 7


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## Project Co-Mentor:

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# Introduction

- An Exam management system is a software that's been developed to manage the entire exam process.
- Covers activities like Moderate Exam, upload/modify paper and change exam pattern that are related to examination management.
- Exam Management System maintained by Admin.

# Organization Profile

**K.S SCHOOL OF BUSINESS MANAGEMENT**

**M.Sc. - Computer Applications and Information Technology**

**Gujarat university campus, Ahmedabad, Gujarat.**

# System Details:

## Existing System:

Existing System didn't support Online web portal yet, Existing system use offline procedure that require offline paper distribution and offline paper scheme.

## Proposed System:

Proposed System use online procedures and online examination system (Exam Management System), online System will be managed by collage, it also includes modules for different users like Students, faculty and Exam coordinator.

# Scope of the System:

- System provides different interfaces for both students and faculty.
- System also provides functionality for faculty to upload or manage exam style and paper.
- Exam management system also manages time table for exams and exam timing and schedules.
- Exam management system support functionality such as result that useful for both students and faculty.

# Objectives:

- Creating system for exam management system for students and faculties, administrators.
- Implement functionality for time table and scheduling.
- Creating optimized system for easier and frequently usage.
- Creating simple and easy to understand UI for users.

# Proposed System Gathering

## Stakeholder of system:

### 1) Students:

Students are users, whom will appear in exam, and also Students can access previous year exam papers also Student can able to see exam timetable. And Student can see their exam results.

### 2) Exam coordinator(Admin):

Exam coordinator is generally authority from collage side who will manage site, generally Admin will able to show data and manage announcements, Exam coordinator able to upload paper to website via faculty.

### 3) Faculty:

Faculty are teacher who will upload papers and also set paper scheme and exam type, Faculty is generally responsible for exam, Faculty can edit/set exam timetable. Faculty also responsible for checking exam papers and determining results.

# Requirement Gathering Technique Used

## Questionnaires:

Questionnaire is a technique of informal way of communication, by using this technique, we can understand our user's point of View and user experience for our System, also we want to keep Our System User-friendly.

**1. Who manages website?**

Admin.

**2. Does Sign in/login is mandatory for user to using website?**

In order to view exam data and other data related to students, one should login in order to access this data

**3. Can a student have multiple accounts?**

Students can't have multiple accounts, they can login into only username account

**4. How can user change password if user forgot his/her password?**

We have emails or mobile no for that way after configuration one can change their password

**5. How does privacy policy works in website?**

We provide security for user data and never provide Data to third party organization without user permission Also User can delete their accounts in our website or logout from the website.

### 6. How user can access this website?

User can access this website on desktop and other portable devices like laptop, mobile, tablet

etc.

# Consolidated List of requirements:

## 1) Admin:

Authority**:**

- Admin can be anyone from collage office/lab staff which manages exam portal and also handles any technical queries during exam.

Moderate Exam:

- Admin takes examination paper from faculty and it also uploads accordingly examination i.e. Mid sem, Final sem.

Modify/update content:

- Admin is also responsible to update/modify or upload any further content specified by faculty or office staff (Important Announcements regarding exam).

Maintain Online Exam:

- Conduct and Maintain Online exams on website.

Maintain all other exams records:

- Maintain all other exams records also other than KS college exams (date-wise conducted every year)

## 2) Student:

Login/Signup**:**
- Student should able to login/signup in website.

Paper Access:
- Student should able to access exam papers.

Dashboard:
- Student also able to check student / exam dashboard.

## 3) Faculty:

Upload Paper Question:
- Faculty able to upload exam paper question.

Select Exam pattern:
- Faculty can select mid semester/final exam paper type.

Online Exam Question:
- Faculty will be able to add online exam questions and upload it.

View Marks:
- Faculty will be able to view their subject marks detail as per there upload.

## Project Definition:

- An Exam management system is a software that's been developed to manage the entire exam process.
- Covers activities like Moderate Exam, upload/modify paper and change exam pattern that are related to examination management.
- Exam Management System maintained by Admin.

# System Management and Planning

## Feasibility Study:

- Feasibility is a type of study which provides initial ideas and overview of design in project development.
- Feasibility study includes Technical, operational and Economical study with a view to helping and developing project in a better way.

## Technical Study:

- **Exam Management System** website will be use bootstrap components (**HTML, CSS, JavaScript** etc.) in Java Server page(JSP).
  which is highly useful for Graphical and user interface.

- It also uses **java** as a server scripting language which is highly flexible, easily compatible and provides efficient performance.
- It also uses **MySQL** for backend database management which is easy to access, process and manage data in website.

## Economical Study:

Economical study of feasibility provides study of Economical aspects of project which evacuates the cost of the system against the benefits of the system. It also includes such topics like,

- Cost effectiveness of particular System (both hardware and Software).
- Benefits against manufacture cost of System.
- Cost Management of particular System in longer term.
- Estimated Cost for implementing and hosting system online.

## Operational Study:

- Operational study of feasibility is the measure of how well a proposed system solves the problems.
- it includes early stages, early access to some features of particular website for testing and implementation purpose.

- It also helps website to add or remove certain features according to user needs.
- Operational study helps website to understand user's point of view and user's goal to operate the website.

# Hardware – Software Requirements:

## Software Requirements:

- **Front-end Technology:** CSS, HTML, J-query, Java script, Bootstrap Library, JSP.
- **Back-end Technology:** Java, MySQL(database).
- **Operating System:** Windows XP, Windows vista, Windows 7, Mac os, Windows 10.
- **Web Browser:** Google chrome, Mozilla Firefox, Internet Explorer, Brave Browser.

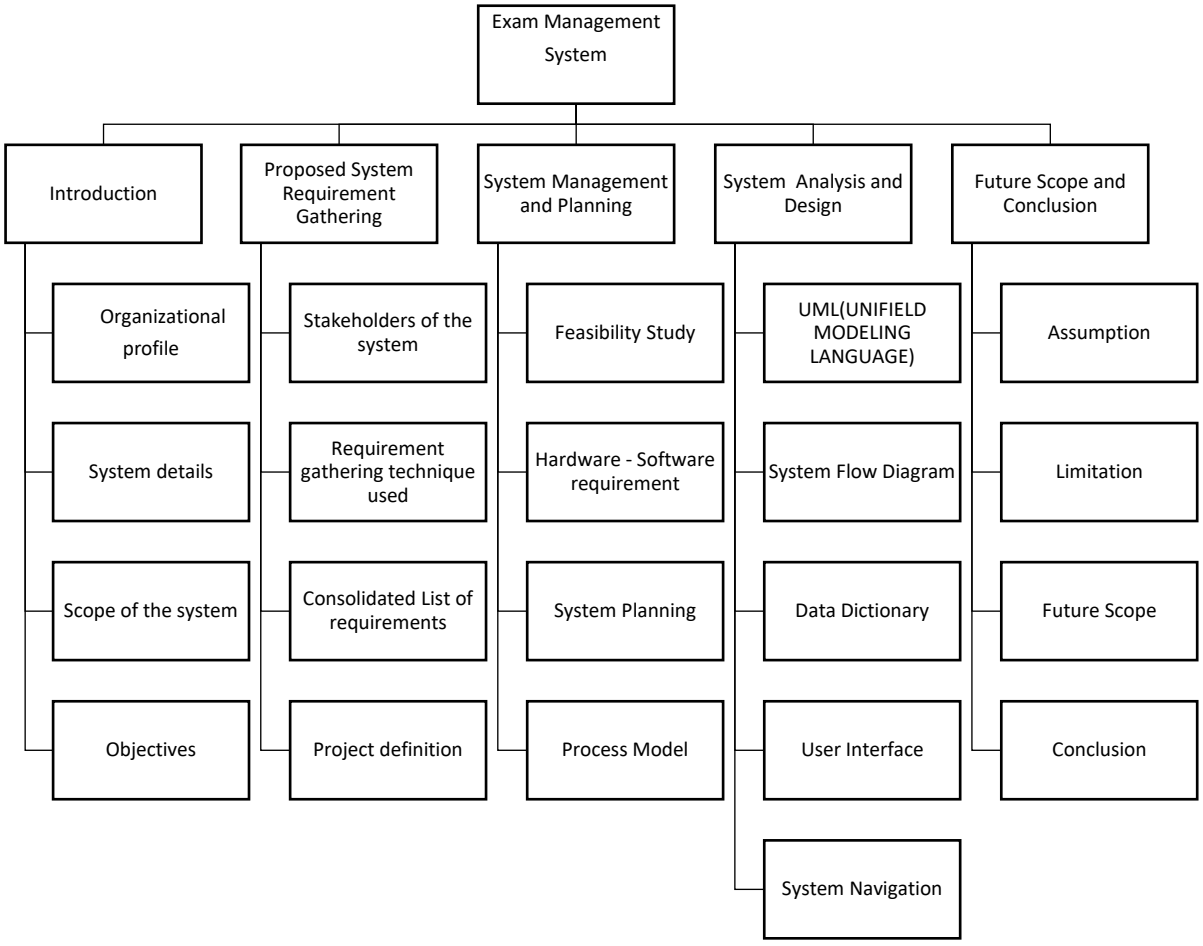
## Hardware Requirements:

- **Minimum processor:** 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- **Minimum Ram:**1 Gb

- **Minimum Hard-disk Storage:** 2 Gb

# System Planning:

## Work Breakdown Structure:



# Gantt Chart:

| Id | Task Name | June | July |
|---|---|---|---|
| 1 | Start the project<br>• Definition allocated | | |
| 2 | Documentation | | |
| 3 | Coding | | |
| 4 | Testing | | |
| 5 | Review by Internal faculty | | |

# Process Model:

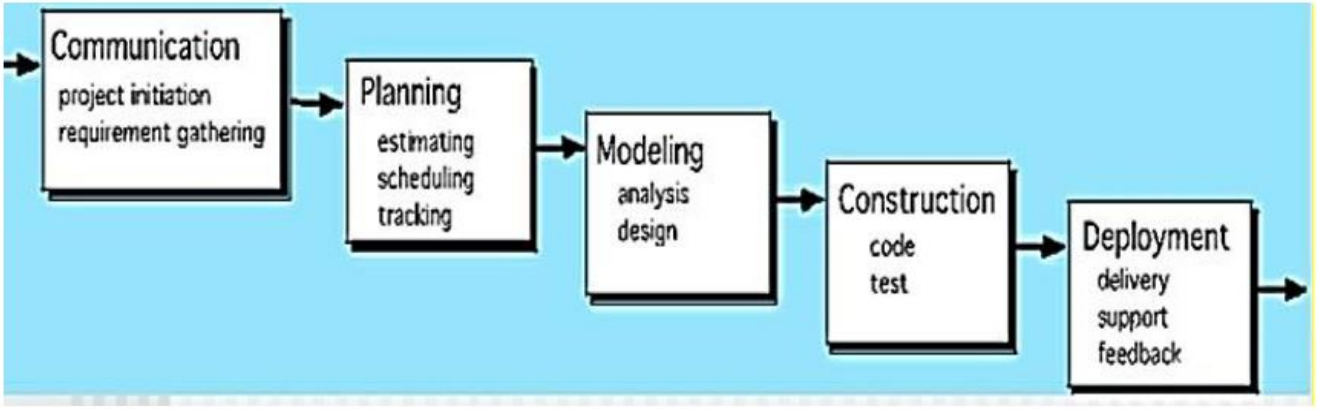
## Waterfall model:

There are times when the requirements for a problem are well understood, When work flows from communication through deployment in a reasonably linear fashion.

This situation is sometimes encountered when well-defined adaptions or enhancements to an existing system must be made.

The waterfall model is a classical model used in system development life cycle to create a system with linear and sequential approach.

It may also occur in a limited number of new development efforts, but only when requirements are well defined and reasonably stable.




The waterfall model, sometimes called the classic life cycle. Suggest a systematic sequential approach to software development that begins with customer specification of requirements and progresses through planning, modelling, construction, and deployment, culminating in ongoing support of the completed software.

## The Process:

- Communication
- Planning
- Modelling
- Construction
- Deployment

## Advantage of Waterfall Model:

- Simple and easy to understand.
- Phases are processed completed one at a time.
- Clearly defined stages.
- Easy to arrange tasks and manage phases.
- Process and results are well documented.
- Project requirements very well understood when projects are smaller.

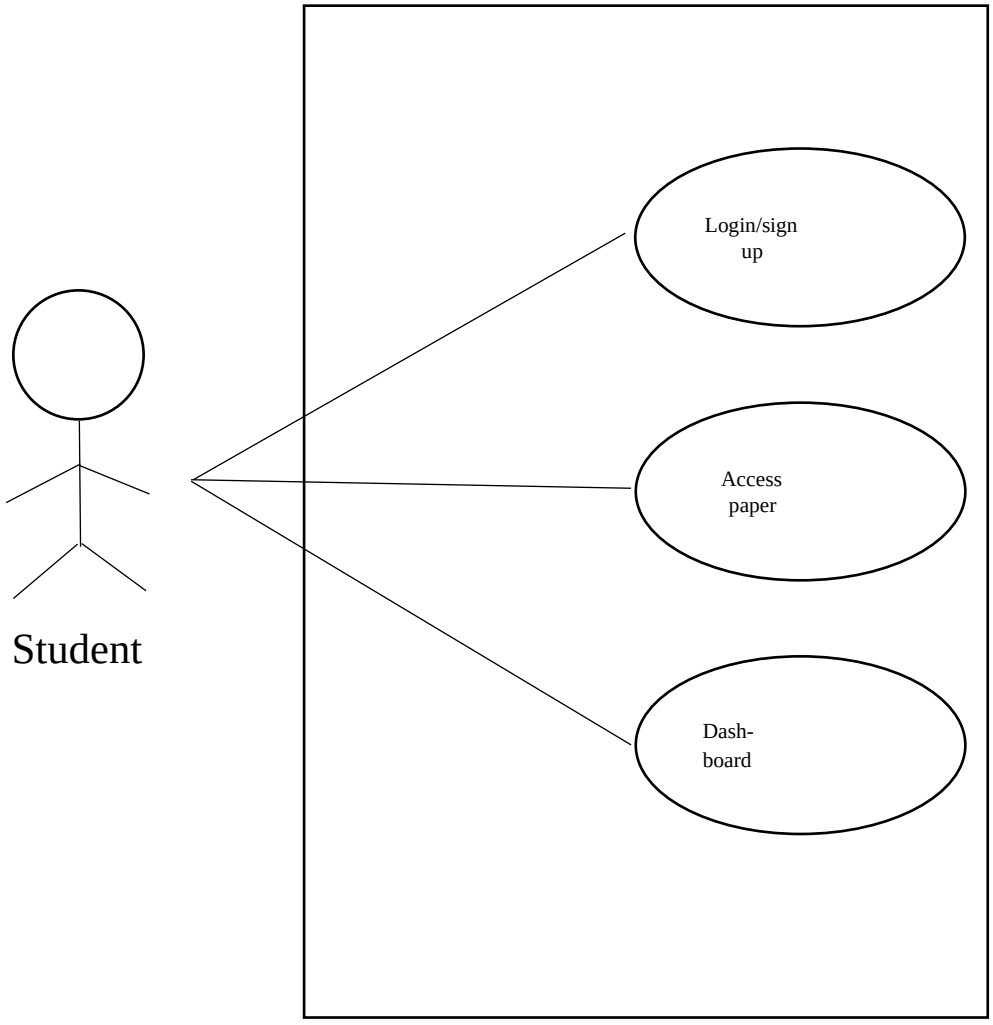
## Disadvantage of Waterfall Model:

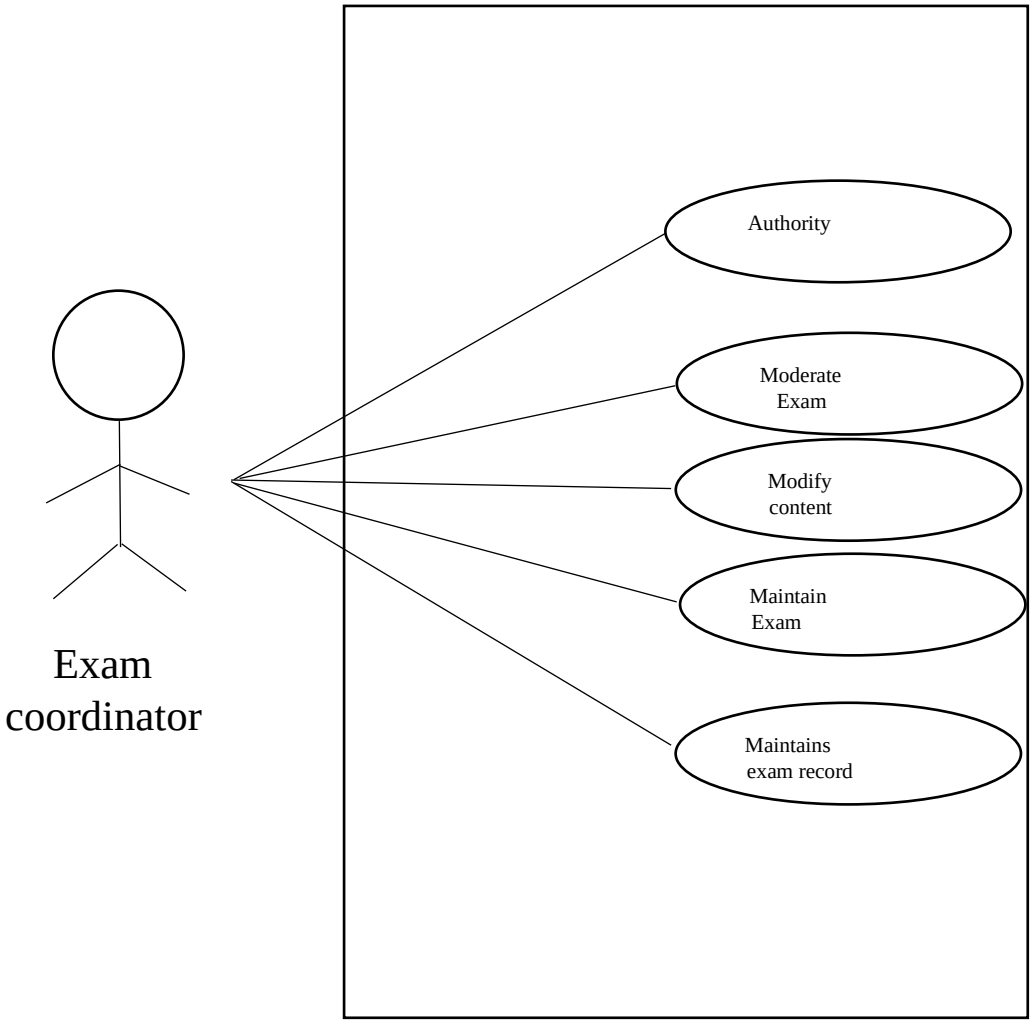
- High amount of risk and uncertainty.
- Not a good model for complex and object oriented projects.
- When project wants to required changes on future, then this types of projects are not suitable.
- This model is very difficult to measure progress within stages.
- Hard to state all requirements explicitly.
- No working software is produced until late during the life cycle.

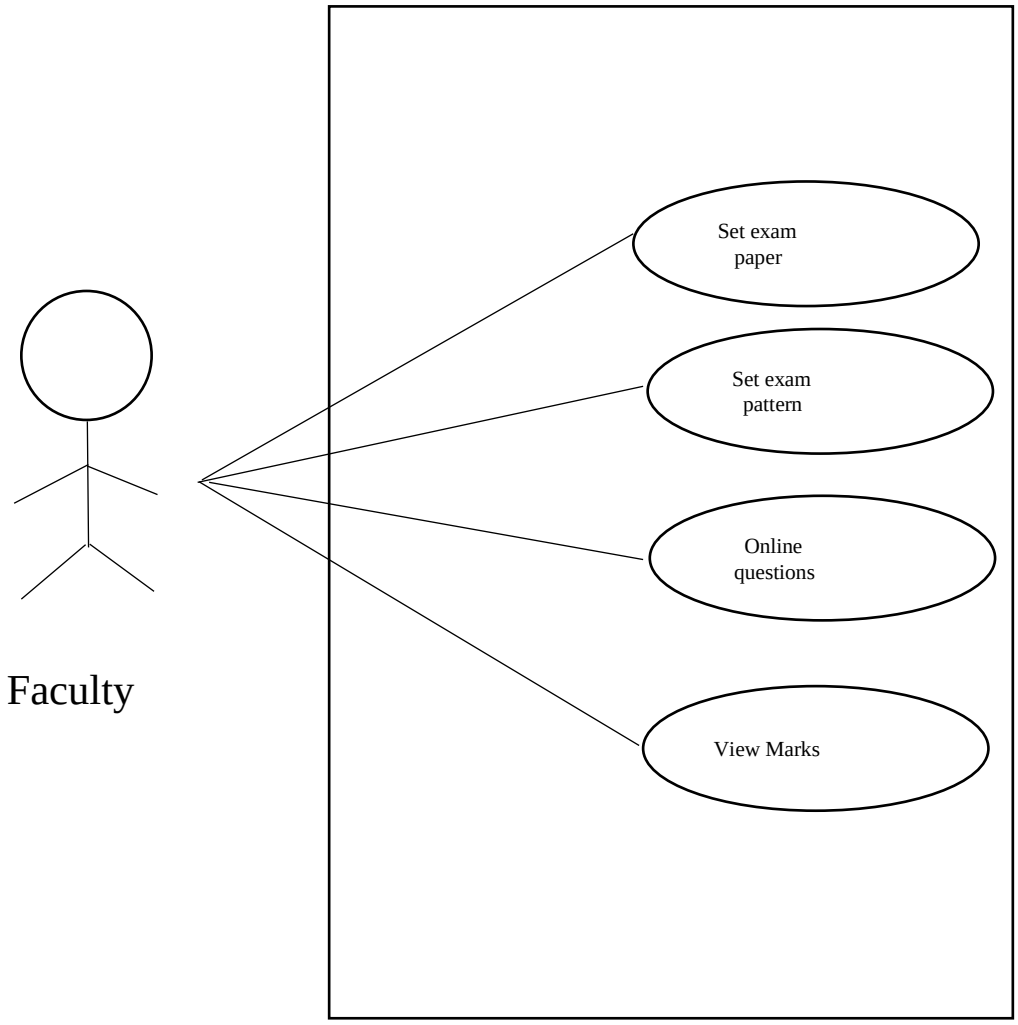
# System Analysis and Design

## UML(Unified Modeling Language)

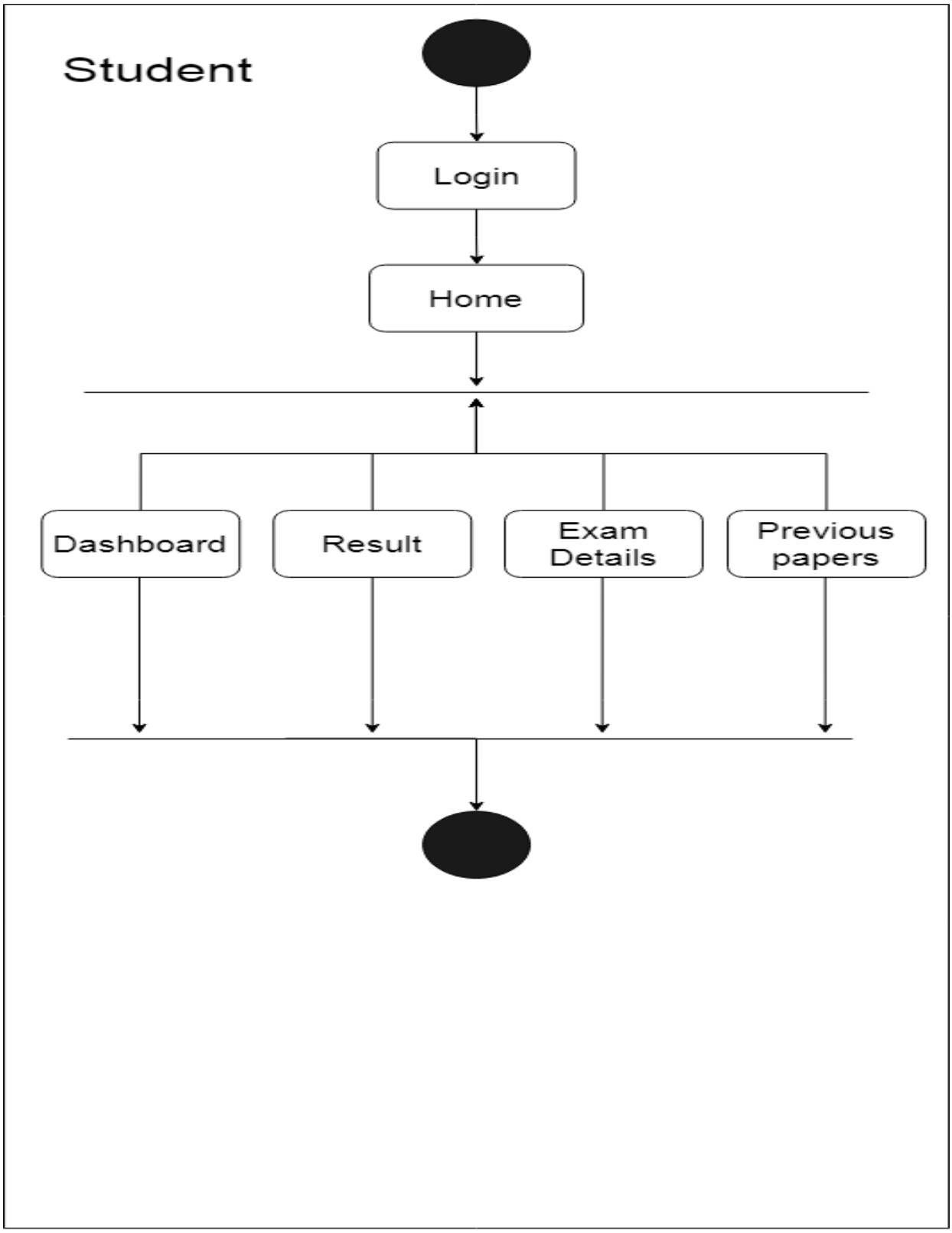
### Use Case

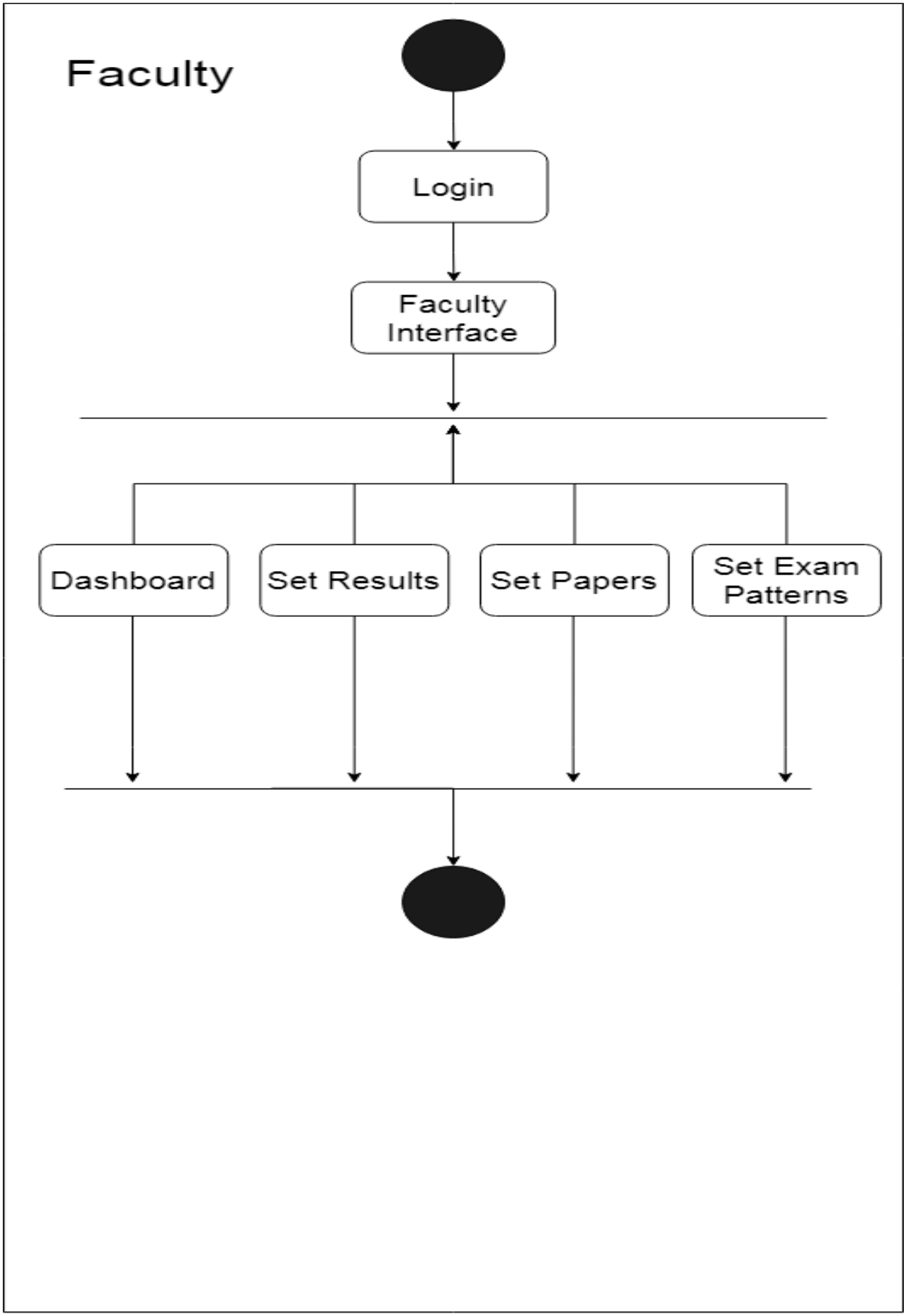


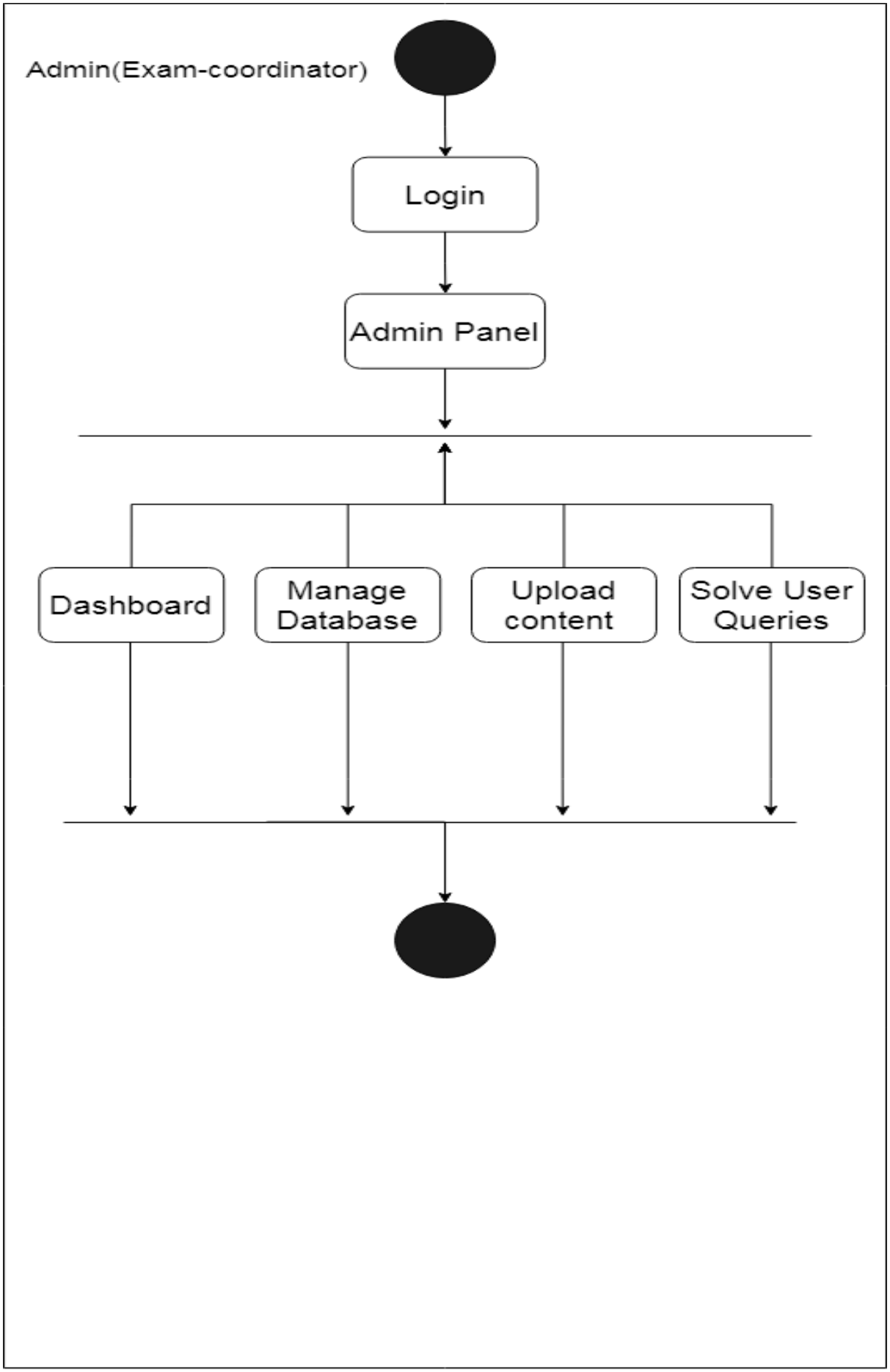

Authority
Moderate Exam
Modify content
Maintain Exam
Maintains exam record
Exam coordinator


Set exam paper
Set exam pattern
Online questions
View Marks
Faculty

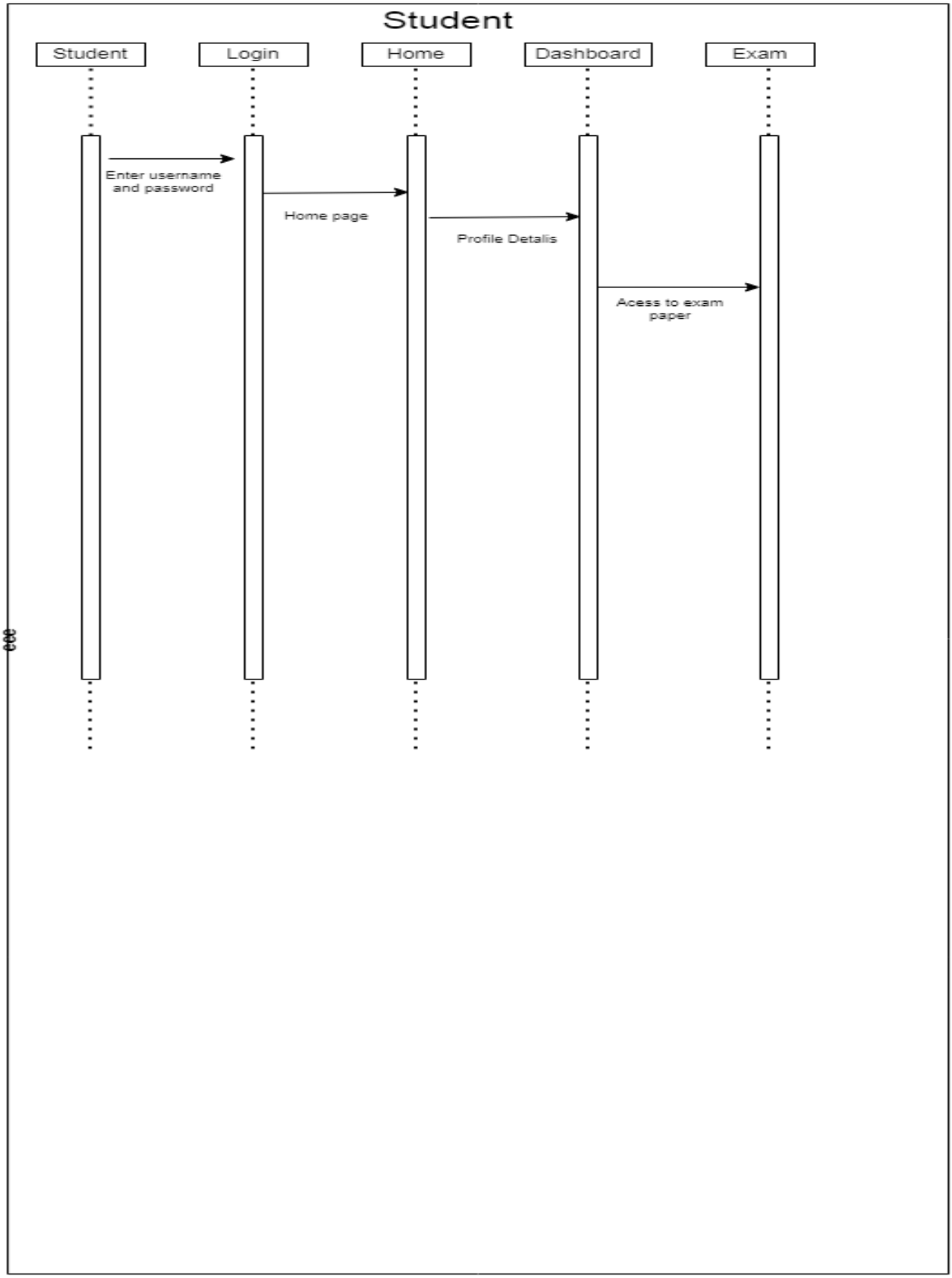
## Activity Diagram

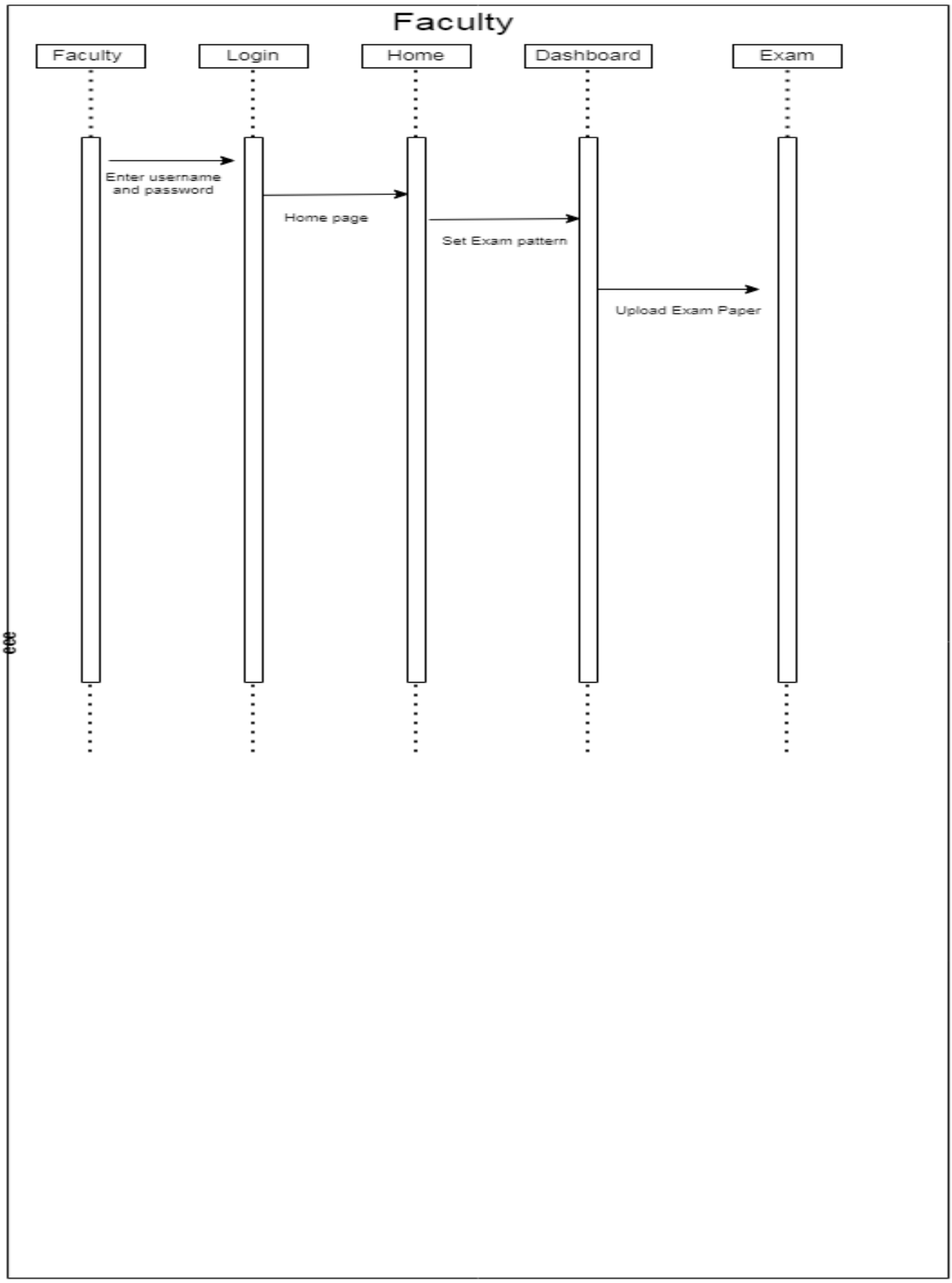


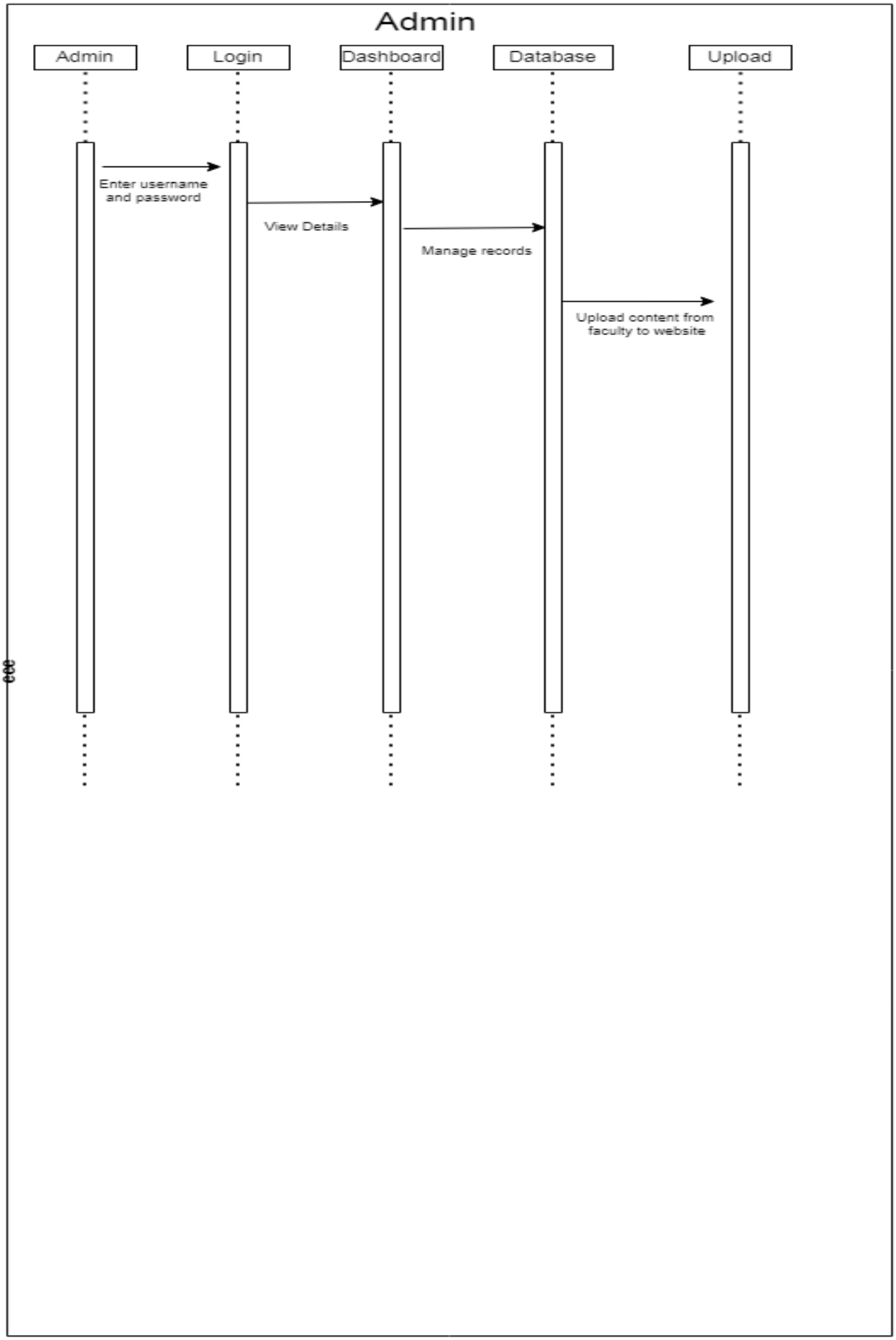

Faculty
Login
Faculty Interface
Dashboard
Set Results
Set Papers
Set Exam Patterns


Admin(Exam-coordinator)
Login
Admin Panel
Dashboard
Manage Database
Upload content
Solve User Queries

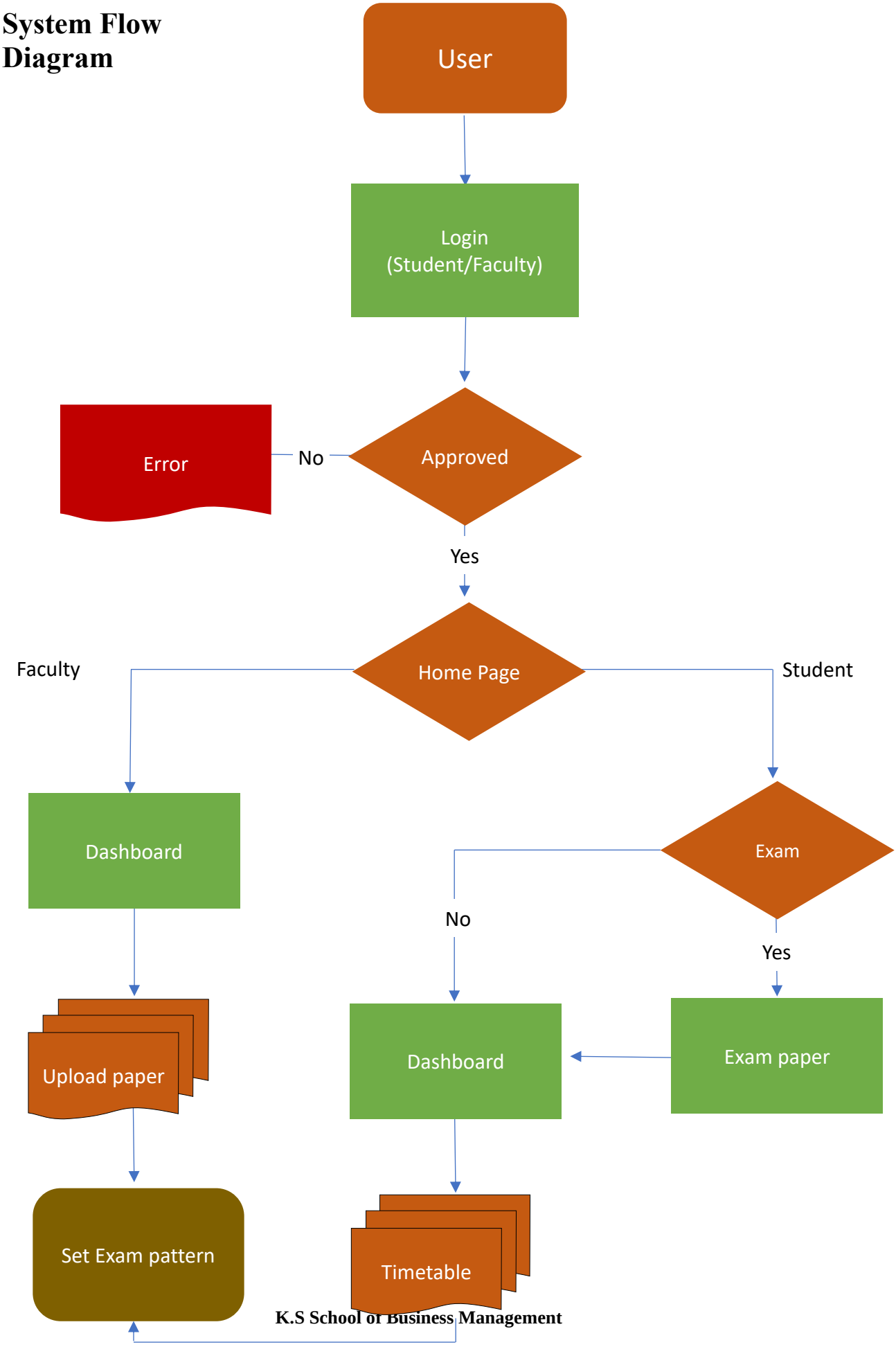
# Sequence Diagram

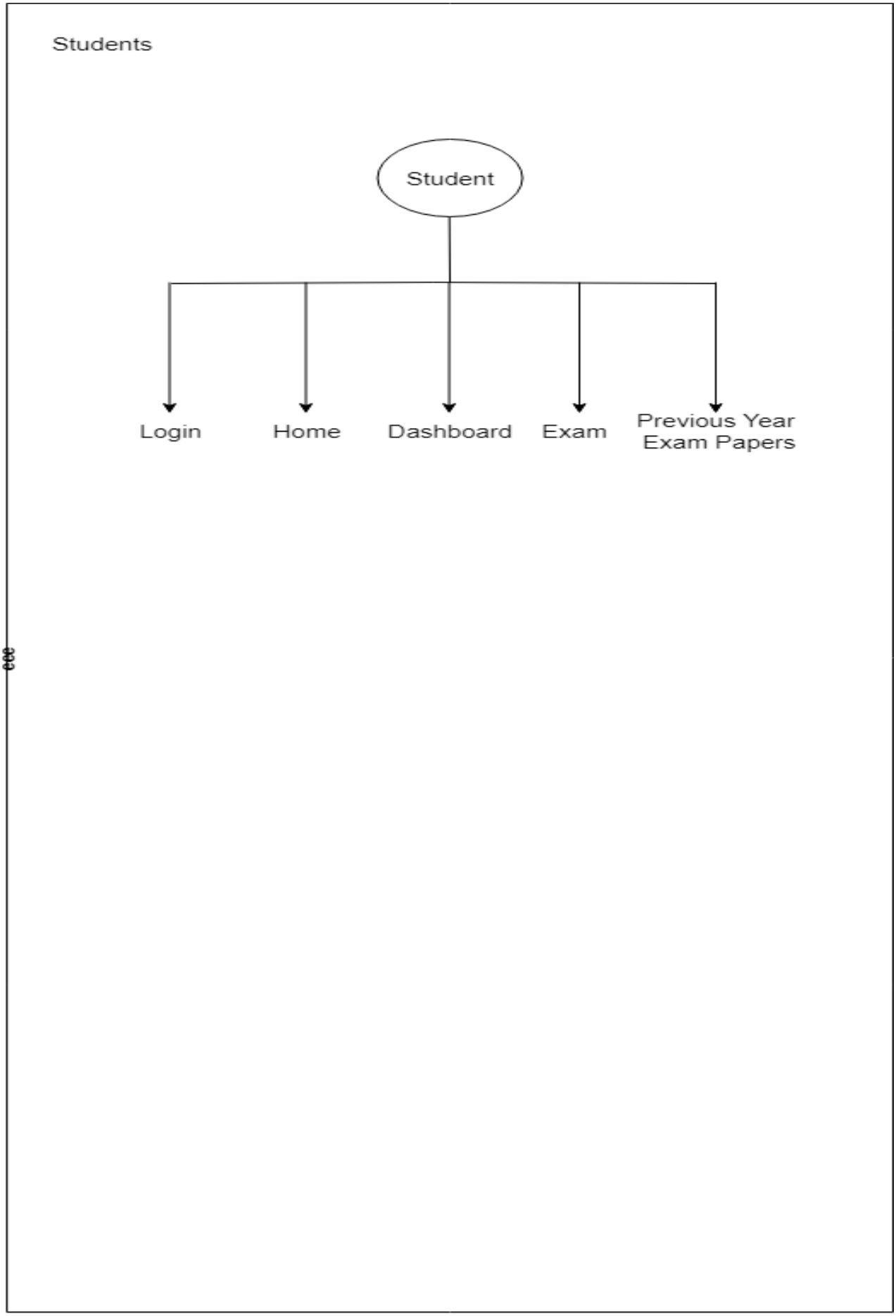


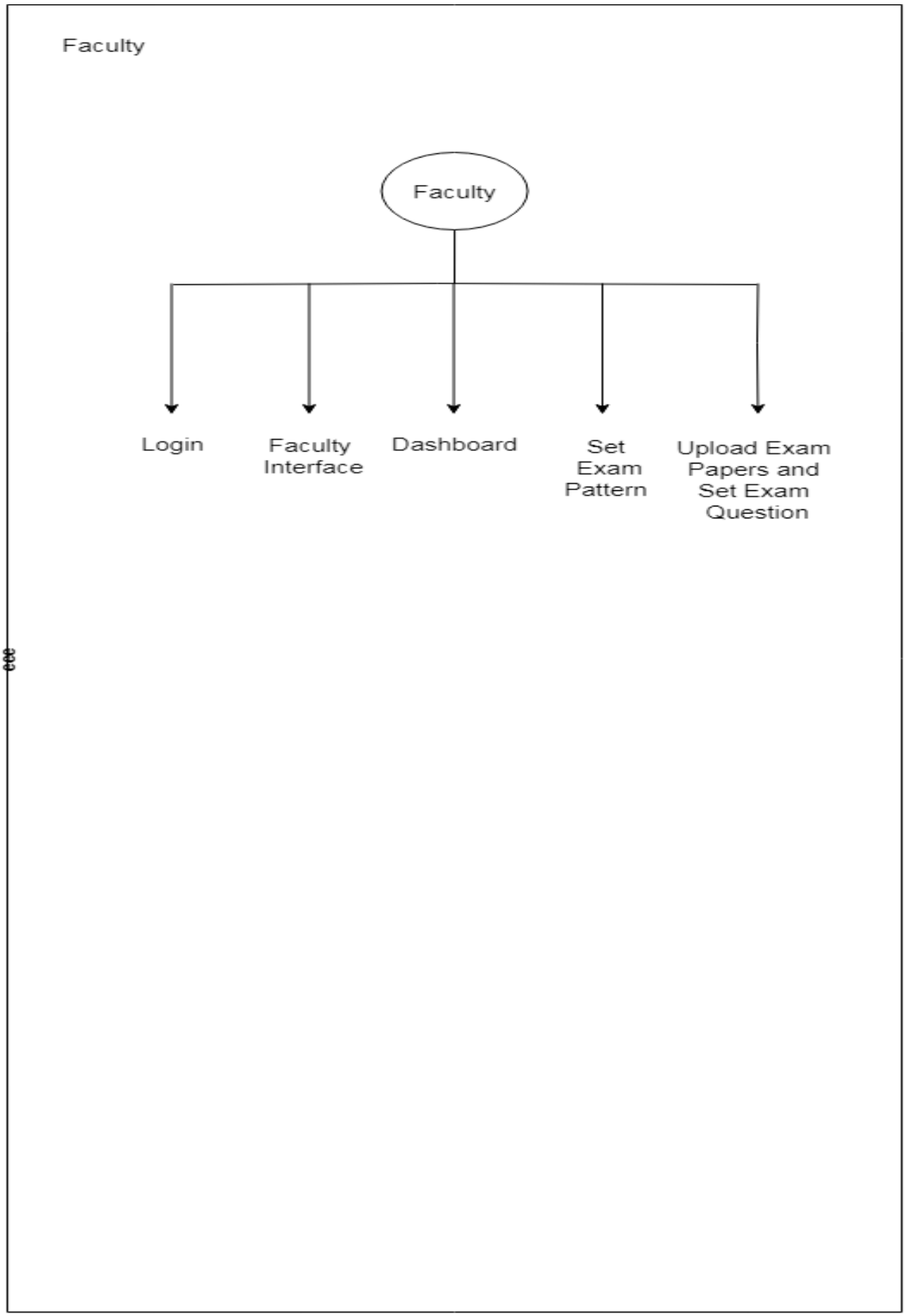

Faculty
Faculty
Login
Home
Dashboard
Exam
Enter username and password
Home page
Set Exam pattern
Upload Exam Paper

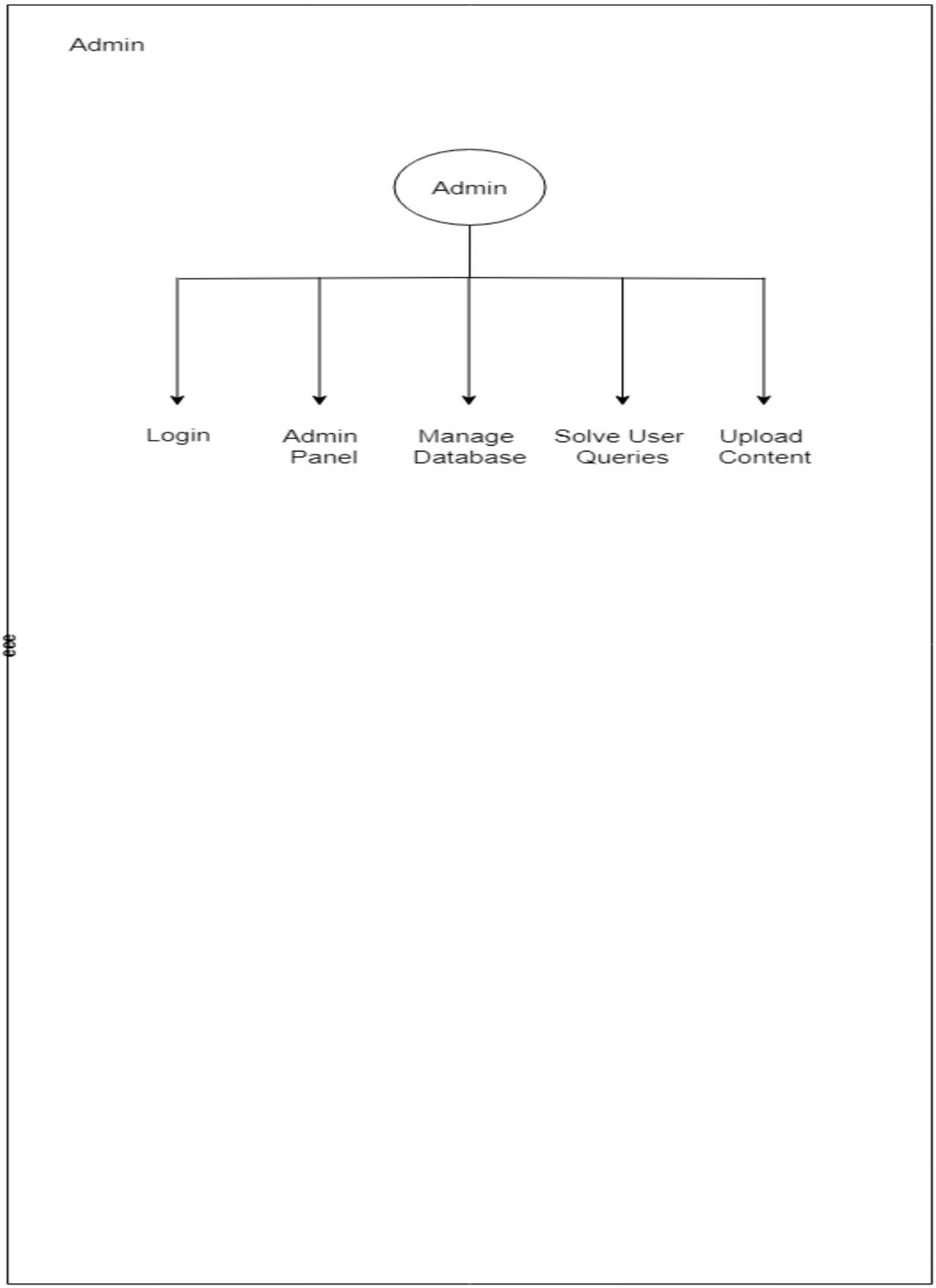

Admin
Admin
Login
Dashboard
Database
Upload
Enter username and password
View Details
Manage records
Upload content from faculty to website

# System Flow Diagram

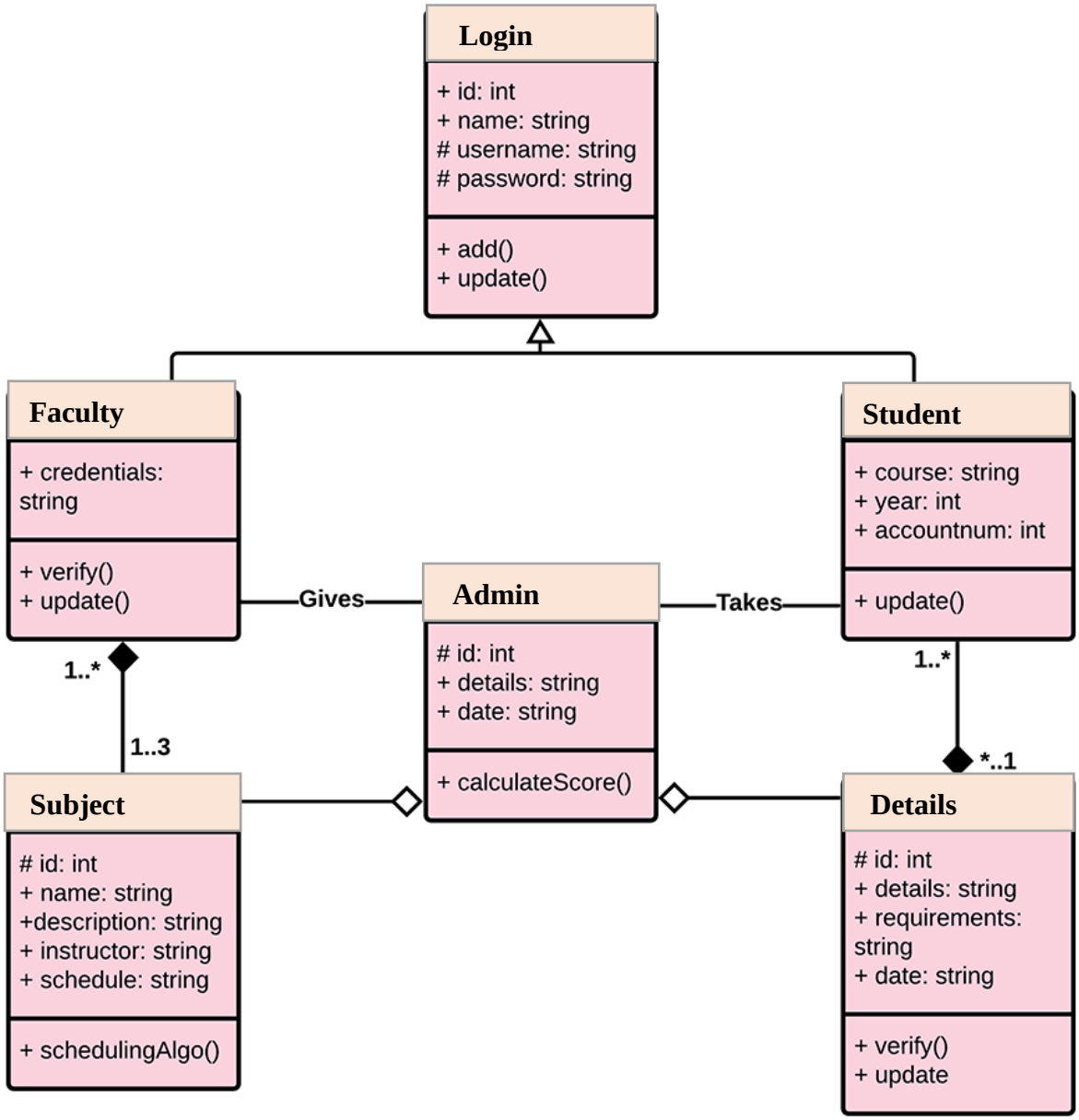



Students
Student
Login
Home
Dashboard
Exam
Previous Year
Exam Papers


Faculty
Faculty
Login
Faculty Interface
Dashboard
Set Exam Pattern
Upload Exam Papers and Set Exam Question


Admin
Admin
Login
Admin Panel
Manage Database
Solve User Queries
Upload Content

# Class Diagram



# DataDictionary

## Student:

- Table Name: **student**

| Field | Type |
|---|---|
| **name** | varchar(255) NOT NULL |
| **year** | int NOT NULL |
| **password** | varchar(255) NOT NULL |
| **type** | varchar(255) NOT NULL |

Description:

| Columns | Index Type |
|---|---|
| **PRIMARY** | id |

## Faculty:

- Table Name: **faculty**

| Field | Type |
|---|---|
| **id** | int NOT NULL |
| **emailid** | varchar(50) NOT NULL |
| **name** | varchar(255) NOT NULL |
| **subject** | varchar(255) NOT NULL |
| **password** | varchar(255) NOT NULL |
| **type** | varchar(255) NULL |

Description:

| Columns | Index Type |
|---|---|
| **PRIMARY** | id |
| **id** | id |

# MCQ Test:

- Table Name: mcqtest

| Field | Type |
|---|---|
| **question** | varchar(255) NOT NULL |
| **a** | varchar(255) NOT NULL |
| **b** | varchar(255) NOT NULL |
| **c** | varchar(255) NOT NULL |
| **d** | varchar(255) NOT NULL |
| **ans** | varchar(255) NOT NULL |
| **subid** | int NULL |
| **date** | timestamp NULL |

Description:

| Indexes | Columns |
|---|---|
| **Foreign Key** | subid |

# Paper:

- Table Name: **paper**

| Type | Comment |
|---|---|
| **id** | int NOT NULL |
| **name** | varchar(255) NOT NULL |
| **faculty** | varchar(255) NOT NULL |
| **date** | date NOT NULL |
| **year** | int NOT NULL |
| **sem** | int NOT NULL |
| **credit** | int NOT NULL |

Description:

| Indexes | Columns |
|---|---|
| **PRIMARY** | Id |

# Result:

- Table Name: **result**

| Field | Type |
|---|---|
| **id** | int NOT NULL |
| **subname** | varchar(255) NOT NULL |
| **marks** | int NOT NULL |
| **ptype** | varchar(255) NOT NULL |
| **file** | varchar(255) NOT NULL |
| **conf** | tinyint(1) NULL |

Description:

| Indexes | Columns |
|---|---|
| **PRIMARY** | id |

# Subject:

- Table Name: **subject**

| Field | Type |
|---|---|
| **subId** | int NOT NULL |
| **subName** | varchar(255) NOT NULL |
| **facultyid** | int NOT NULL |
| **subYear** | int NOT NULL |
| **subSem** | int NOT NULL |
| **subCreadit** | int NOT NULL |

Description:

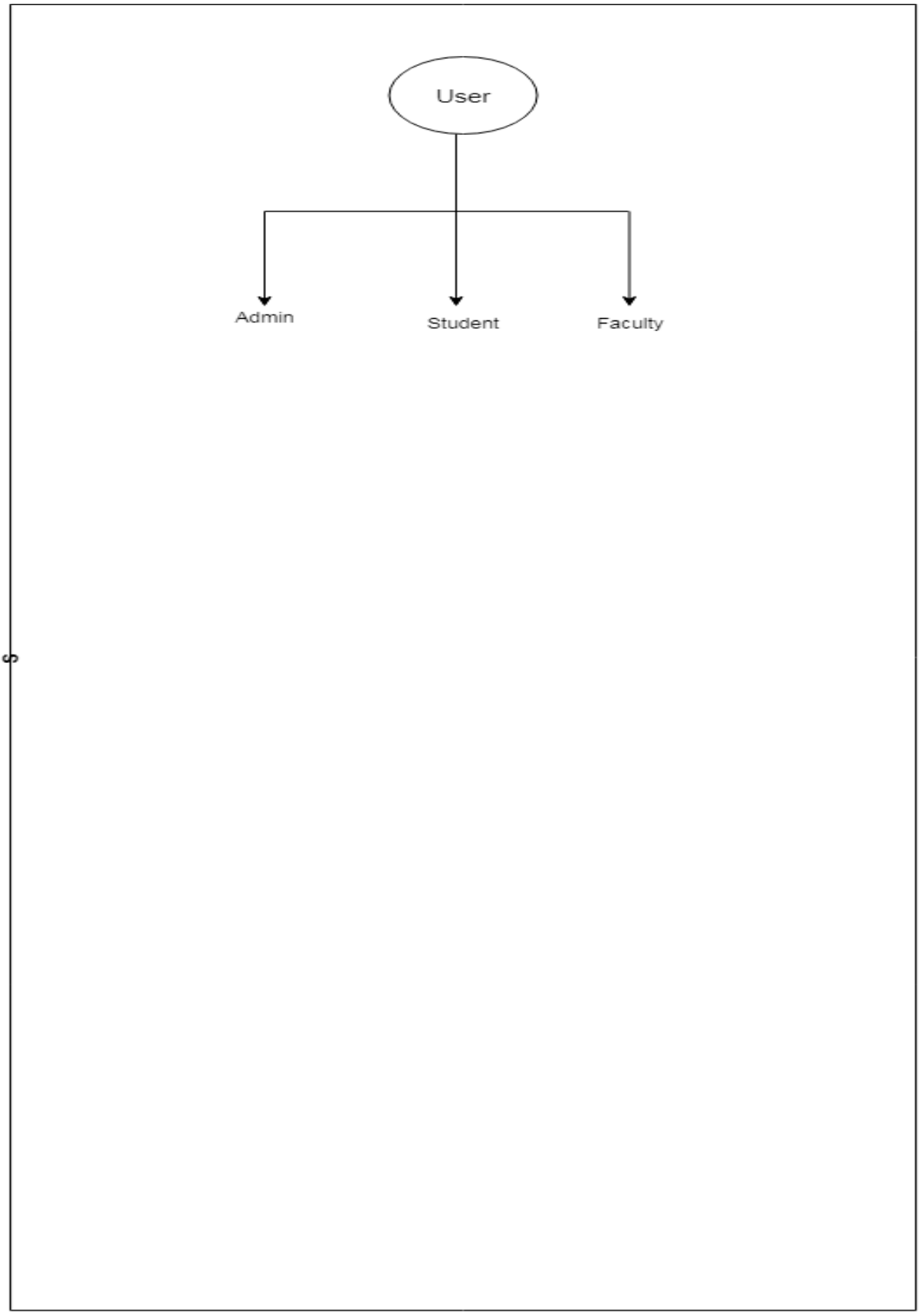
| Indexes | Columns |
|---|---|
| **PRIMARY** | subId |

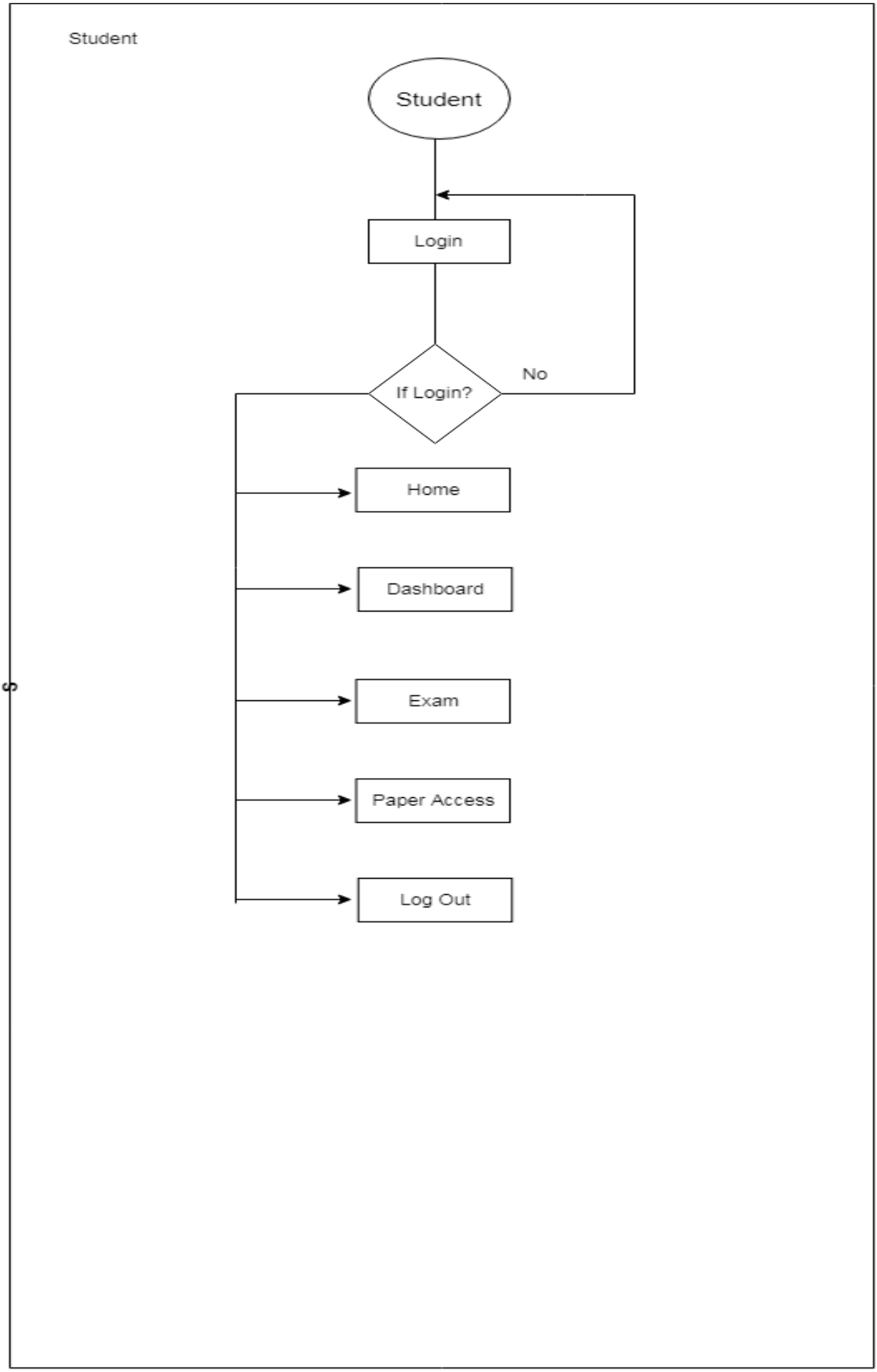
# Exam Answer:

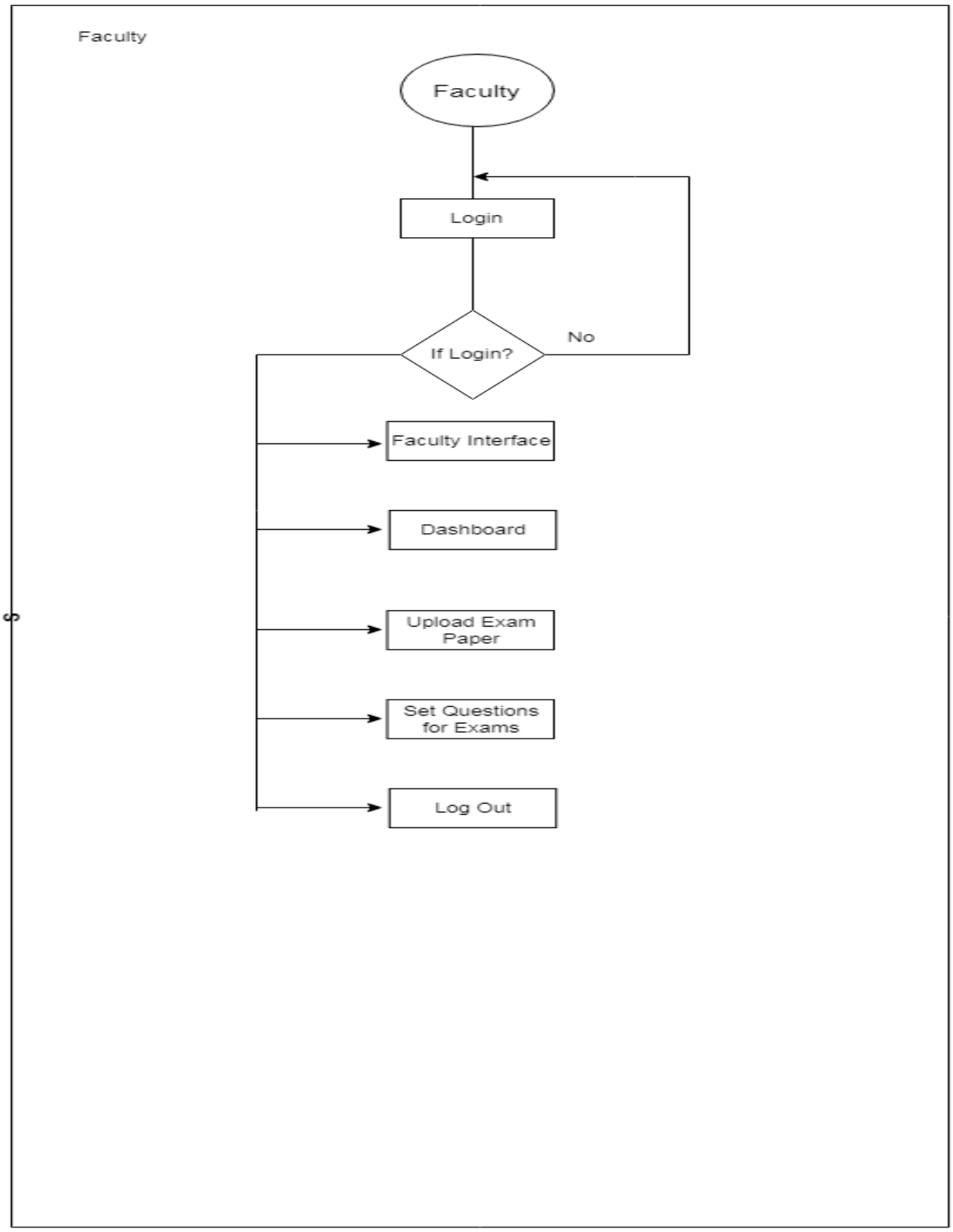
- Table Name: **answer**

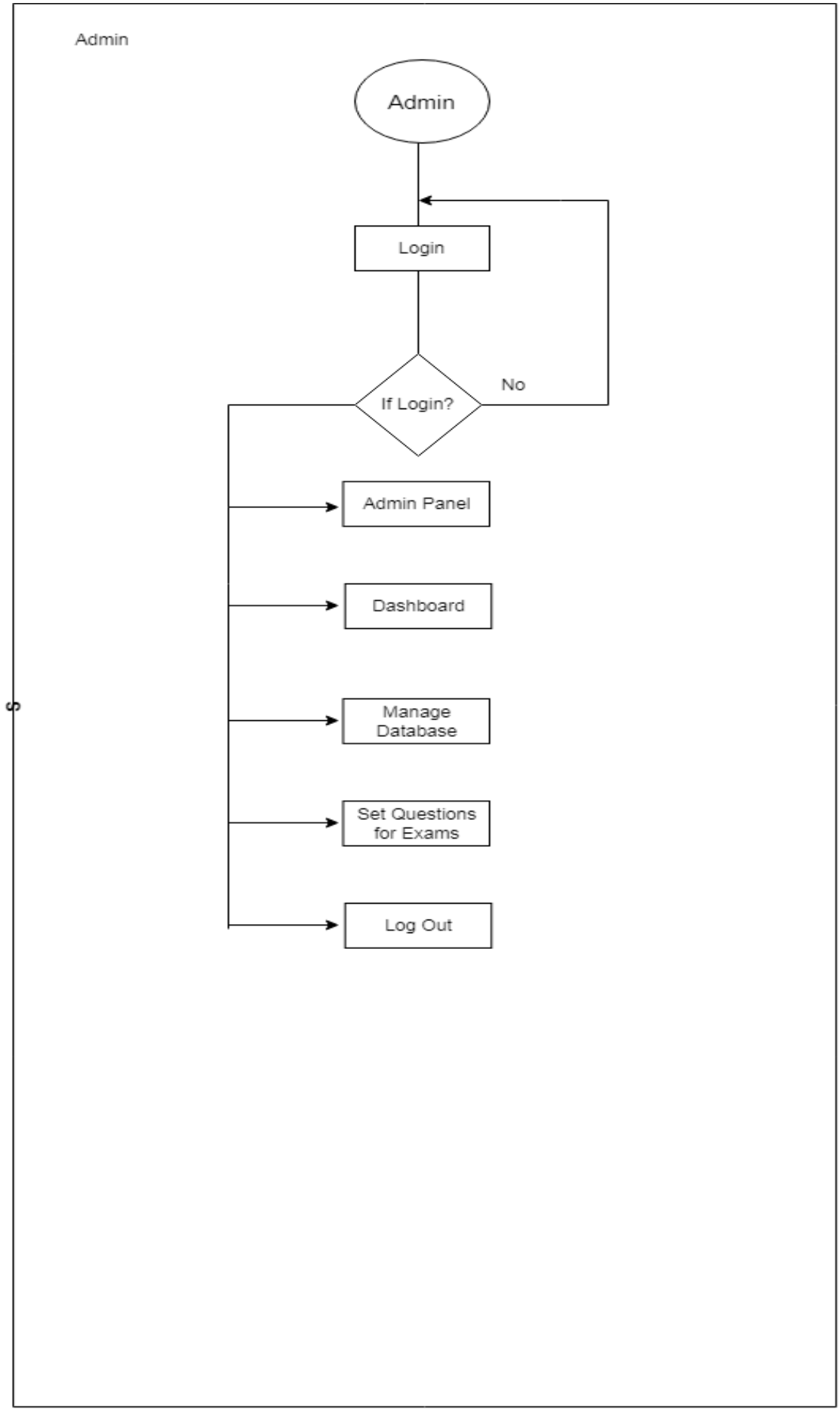
| Field | Type |
|---|---|
| **ans** | int NULL |
| **totque** | int NULL |
| **stdId** | int NULL |
| **date** | datetime NULL |
| **subNm** | varchar(255) NULL |

# System Navigation:




Student
Student
Login
If Login?
No
Home
Dashboard
Exam
Paper Access
Log Out


Faculty
Faculty
Login
If Login?
No
Faculty Interface
Dashboard
Upload Exam Paper
Set Questions for Exams
Log Out


Admin
Admin
Login
If Login?
No
Admin Panel
Dashboard
Manage Database
Set Questions for Exams
Log Out