
JAVA MINI PROJECT REPORT – LMS

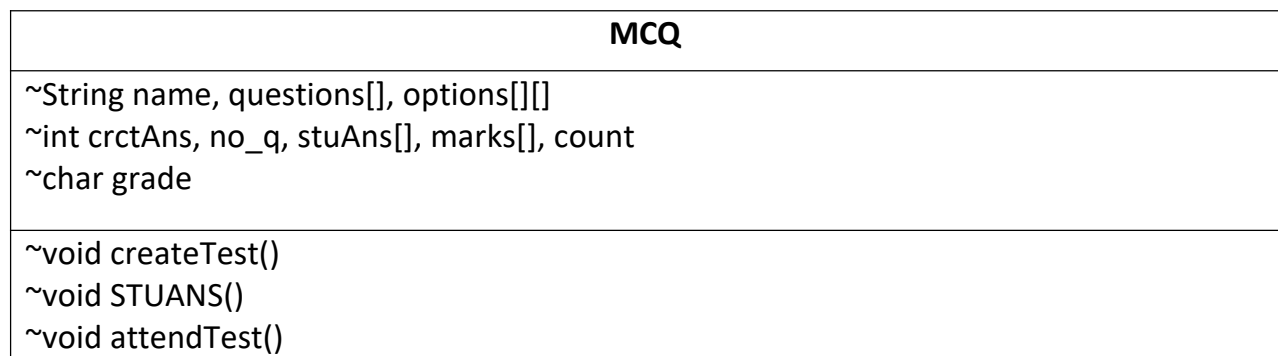
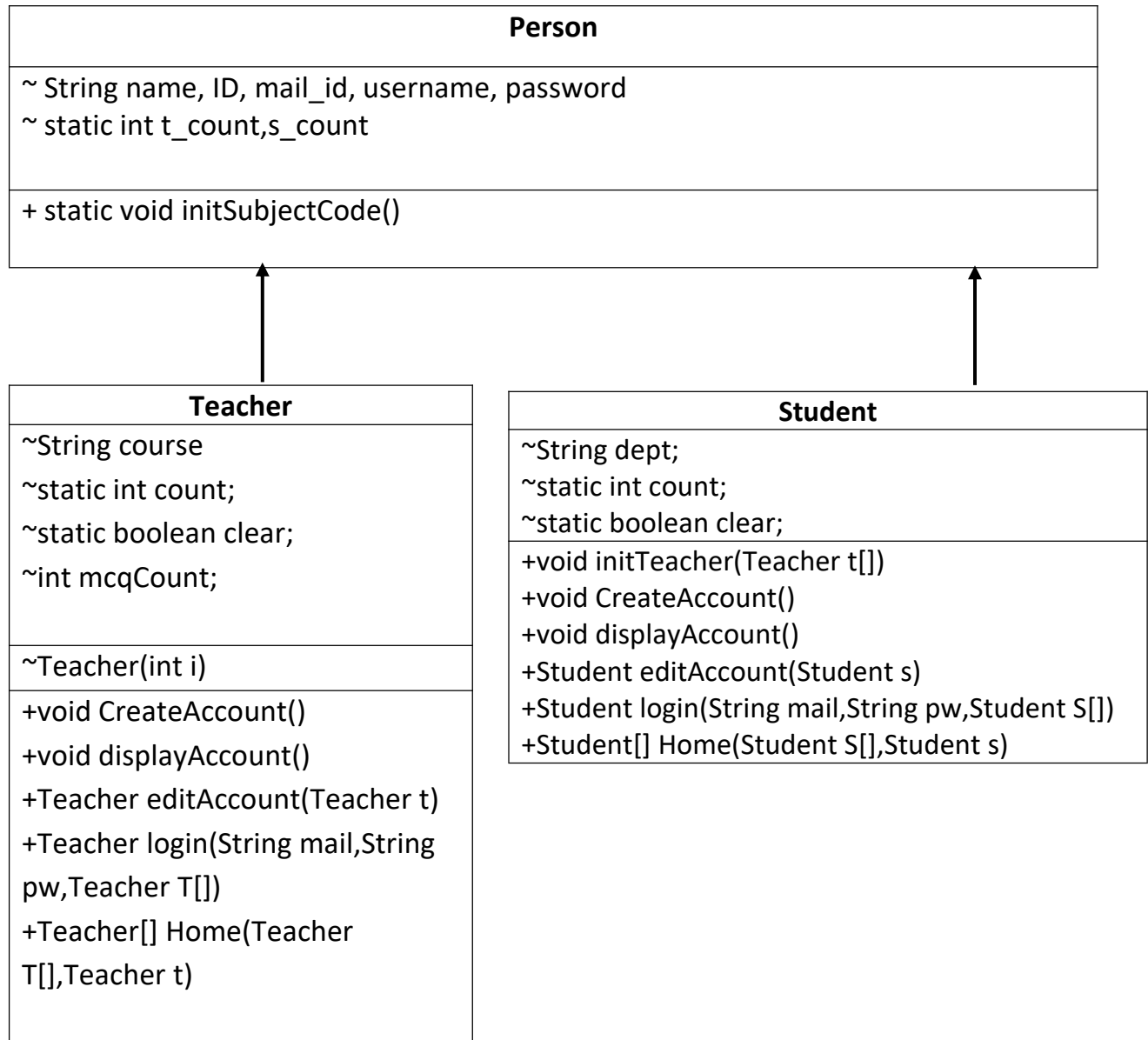
DESCRIPTION:

A learning management system has been developed using Java source code. A password protected teacher module and student module is included to authorize the users. The process of account creation is planned to handle exceptions such as validity of e-mail, password, student ID, teacher ID and course code. The LMS provides basic functions to both types of users such as changing the password, username, and viewing the profile. Features unique to the teacher and student user are Create MCQ and Attempt MCQ, respectively. The MCQ creation feature lets the teacher add a user specified number of MCQs on various topics covered in the course. For each MCQ topic, the teacher can create a set of questions with four possible options, with one being the right option. The Attempt MCQ feature lets the student attempt any MCQ created by a teacher. The student can select an available MCQ from the list. Based on the selection, the corresponding MCQ is displayed for attempting. The student is awarded 1.0 for a right answer and 0.0 for a wrong answer. At the end of each MCQ, the pass percentage is calculated for the attempted MCQ and is displayed.

OOP CONCEPTS:

The OOP concepts used are **Inheritance** (hierarchical inheritance and multiple inheritance through the use of interfaces), **Polymorphism** (Run-time polymorphism, method overriding and overloading), **Data encapsulation** using access modifiers, **Abstraction** (using abstract methods) and **Association** (There is a one-to-many relationship between a teacher and students. Similarly, a student can have a one-to-many relationship with teacher objects. However, both student and teacher objects are independent of each other).

CLASS DIAGRAM:



OUTPUT SCREENSHOTS:

```
----- TEACHER LOGIN -----  
  
Are you a new user/existing user?  
Please enter 1 for new user and 2 for existing user(any number to return to Home Page):  
1  
----- Creating New Account -----  
  
Enter name: rasool  
Enter Employee ID: 689  
[678, 689]  
Enter e-mail id (eg: abc@gmail.com) : uhss  
  
Exception : InvalidMailIdException  
mailID has an invalid format  
  
Enter e-mail id (eg: abc@gmail.com) : rasoolibrahim@hotmail.ae  
  
Exception : ExistingMailIdException  
The e-mail ID - rasoolibrahim@hotmail.ae already exists  
  
Enter e-mail id (eg: abc@gmail.com) : rasoolkabir@gmail.com  
Enter password: █
```

```
----- TEACHER LOGIN -----  
  
Are you a new user/existing user?  
Please enter 1 for new user and 2 for existing user:  
2  
Enter e-mail id:  
rasool@hotmail.ae  
Enter password:  
rasool  
Valid Login0  
  
ENTER MCQ NAME:  
1  
  
ENTER NO. OF QUESTIONS:  
4  
  
QUESTIONS  
  
ENTER QUESTION 1 :  
2+3
```

```
ENTER OPTIONS  
OPTION 1 :1  
OPTION 2 :3  
OPTION 3 :4  
OPTION 4 :8  
  
ENTER CORRECT ANSWER OPTION NO. : 4  
  
ENTER QUESTION 2 :  
10/2  
  
ENTER OPTIONS  
OPTION 1 :1  
OPTION 2 :3  
OPTION 3 :5  
OPTION 4 :2  
  
ENTER CORRECT ANSWER OPTION NO. : 3
```

```

----- Creating New Account -----

Enter name: Rasool
Enter Employee ID: 678
Enter e-mail id (eg: abc@gmail.com) : ras

Exception : InvalidMailIdException
mailID has an invalid format

Enter e-mail id (eg: abc@gmail.com) : rasoolibrahim@hotmail.ae
Enter password: rasool
[UCS1105, UCY1102, UEN1106, UGE1104, UMA1101, UPH1103]

1.MATHEMATICS - UMA1101
2.ENGINEERING CHEMISTRY - UCY1102
3.ENGINEERING PHYSICS - UPH1103
4.ENGINEERING GRAPHICS - UGE1104
5.PROGRAMMING IN PYTHON - UCS1105
6.technical ENGLISH - UEN1106

Enter subject code for the course handled: UMA1102

Exception : InvalidCourseException
The course code - UMA1102 doesnt exist

[UCS1105, UCY1102, UEN1106, UGE1104, UMA1101, UPH1103]

1.MATHEMATICS - UMA1101
2.ENGINEERING CHEMISTRY - UCY1102
3.ENGINEERING PHYSICS - UPH1103
4.ENGINEERING GRAPHICS - UGE1104
5.PROGRAMMING IN PYTHON - UCS1105
6.technical ENGLISH - UEN1106

Enter subject code for the course handled: UMA1101

----- Account successfully created -----

```

```

----- STUDENT LOGIN -----

Are you a new user/existing user?
Please enter 1 for new user and 2 for existing user:
1
----- Creating New Account -----

Enter name: SNEHA
Enter Student ID: 5241
Enter username: SNEHA
Enter e-mail id (eg: abc@gmail.com) : snehapriyamurugan@gmail.com
Enter password: sneharoxx
Enter department: CSE

----- Account successfully created -----

----- STUDENT LOGIN -----

Are you a new user/existing user?
Please enter 1 for new user and 2 for existing user:
2
Enter e-mail id:
snehapriyamurugan@gmail.com
Enter password:
sneharoxx
Valid Login      SUBJECTS
1.UMA1101
2.null
3.null
4.null
5.null
6.null
ENTER SUBJECT NUMBER:
1
1. 1

ENTER TEST NO.:1

QUESTION 1 :2+3
(1)1
(2)3
(3)4
(4)8

ENTER CHOICE:
1

```

```

QUESTION 2 :
(1)1
(2)3
(3)5
(4)2

CORRECT ANSWER: 3 5

YOUR ANSWER: 3 5

CORRECT!!

QUESTION 3 :
(1)7
(2)47
(3)74
(4)28

CORRECT ANSWER: 4 28

YOUR ANSWER: 4 28

CORRECT!!

```

```

QUESTION 4 :
(1)76
(2)90
(3)09
(4)0

CORRECT ANSWER: 4 0

YOUR ANSWER: 4 0

CORRECT!!

CORRECT ANSWERS :4
WRONG ANSWERS :0

TOTAL :1.0
YOU HAVE SCORED 1.0IN TEST 0

YOU HAVE ATTENDED :1

----- STUDENT LOGIN -----

```

LEARNING OUTCOME:

1. Learnt to develop, debug and test a learning management system app using java source code.
2. Learnt an object-oriented design technique through Association where there is a one-to-many relationship between a teacher and students. Similarly, a student can have a one-to-many relationship with teacher objects. However, both student and teacher objects are independent of each other.
3. Learnt to handle and fix the exceptions as and when they occur to develop a runtime error-free code.
4. Learnt to use interfaces to break up the complex designs and clear the dependencies between objects.
5. Learnt to incorporate multiple and hierarchical inheritance, and polymorphism techniques