

## JAVA ASSIGNMENT-3

KUMAR HARSH  
2401420036  
B-Tech (CSE (DS))

### Student Result Management

Java code:-

```
import java.util.*;  
  
class InvalidMarksException extends Exception {  
    InvalidMarksException(String message) {  
        super(message);  
    }  
}  
  
class Student {  
    int rollNumber;  
    String studentName;  
    int[] marks = new int[3];  
  
    public Student(int rollNumber, String studentName, int[]marks)  
    {  
        this.rollNumber = rollNumber;  
        this.studentName = studentName;  
        this.marks = marks;  
    }  
}
```

void validateMarks() throws InvalidMarksException {

int i=0;

while(i < marks.length) {

if (marks[i] < 0 || marks[i] > 100) {

throw new InvalidMarkException("Invalid  
marks");

}

i++;

}

}

double calculateAverage() {

int sum = 0;

int i = 0;

while(i < 3) {

sum += marks[i];

i++;

}

return sum / 3.0;

}

void displayResult() {

System.out.println("Name: " + studentName);

System.out.println("Roll: " + rollNumber);

int i = 0;

while(i < 3) {

System.out.println("marks for subject" + (i + 1) + "=" +  
marks[i]);

}

double avg = calculateAverage();

System.out.println("RESULT: PASS");

("Average=" + avg);

```

- if (avg >= 40) {
    System.out.println("RESULT: PASS");
}
else {
    System.out.println("RESULT: FAIL");
}
}

```

class ResultManager{

```

Scanner input = new Scanner(System.in);
Student[] students = new Student[100];
int count = 0;

```

```

void addstudent() {
    try {

```

```

        System.out.print("Enter Roll Number:");
        int roll = input.nextInt();
        input.nextLine();

```

```

        System.out.print("Enter Student Name:");
        String name = input.nextLine();

```

```

        int[] marks = new int[3];

```

```

        System.out.println("Enter marks of 3 subjects");

```

```

        int i = 0;

```

```

        while (i < 3) {

```

```

            System.out.print("Subject " + (i + 1) + ": ");

```

```

            marks[i] = input.nextInt();

```

```

            i++;
}

```

```
Student st = new Student(roll, name, marks);
st.validateMarks();
```

```
Students[count++] = st;
```

```
System.out.println("Student added successfully");
```

}

```
catch (InvalidMarksException e) {
```

```
System.out.println("Error:" + e.getMessage());
```

}

```
catch (InputMismatchException e) {
```

```
System.out.println("Invalid Input");
```

    }

}

```
catch (Exception e) {
```

```
System.out.println("Error:" + e.getMessage());
```

}

```
finally {
```

```
System.out.println("addstudent() completed.");
```

}

}

~~public~~

```
void showStudentDetails() {
```

```
try {
```

```
System.out.print("Enter Roll Number: ");
```

```
int roll = input.nextInt();
```

```
int i = 0;
```

```
boolean found = false;
```

```

while(i < count) {
    Student s = students[i];
    if(s != null & & s.rollNumber == roll) {
        s.displayResult();
        found = true;
        break;
    }
}
if(!found) {
    System.out.println("Student not found");
}
catch(InputMismatchException e) {
    System.out.println("Invalid Input");
    input.nextLine();
}
}

void mainmenu() {
    int choice = 0;
    try {
        do {
            System.out.println("Student Result Management");
            System.out.println("1. Add student");
            System.out.println("2. Show details");
            System.out.println("3. Exit");
            System.out.println("Enter your choice:");
            choice = input.nextInt();
        } while(choice != 3);
    } catch(InputMismatchException e) {
        System.out.println("Invalid Input");
        input.nextLine();
    }
}

```

```
if (choice == 1) {  
    addstudent();  
}  
else if (choice == 2) {  
    ShowStudentDetails();  
}  
else if (choice == 3) {  
    System.out.println("Exited successfully");  
}  
else {  
    System.out.println("Invalid choice");  
}  
while (choice != 3);  
catch (InputMismatchException e) {  
    System.out.println("Invalid Input");  
}  
finally {  
    System.out.println("Program ended");  
}  
Public static void main(String[] args) {  
    Resultmanager obj = new Resultmanager();  
    obj.mainmenu();  
}
```