JAVA ASSIGNMENT - 3

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BTech. CSE. [DS]

Student Result Management System.

Code.

```java
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 InvalidMarksException ("
                    Invalid Marks !");
```

```java
        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]);
          i++;
      }

      double avg = calculateAverage ();
      System.out.println (" Average: " + avg);
      if ( avg >= 40) {
          System.out.println ("Result: Pass");
      }
      else {
          System.out.println ("Result: fail");
      }
```

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]
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 ]

class ResultManager {
    Scanner input = new Scanner(System.in);
    Student [] student = new Student [100];
    int count = 0;
    void addstudent () {

        try {
            System.out.println(" enter Roll No. ");
            int roll = input.nextInt();

            System.out.println("enterstudent name");
            string name = input.nextLine();

            int [] marks = new int [3];
            System.out.println("enter marks for 3 sub ");

            int i = 0;
            while (i < 3) {
                System.out.println("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");

        }
```

```java
        catch (InvalidMarksException e) {
            System.out.println("Error:" + e.getMessage());
        }
        catch (InputMismatchException e) {
            System.out.println("Invalid input");
            input.nextline();
        }
        catch (Exception e) {
            System.out.println("Unexpected error" + e.
                                        getMessage());

public void showStudentDetails() {
    try {
        System.out.println("Enter Roll No to search");
        int roll = input.nextInt();

        int i = 0;
        boolean found = false;
        while (i < count) {
            student s = students[i];
            if (s! = null && , s.rollnumber == roll) {
                s.displaydetails();
                found = true;
                break;
            }
            i++;
        }

        if (! found) {
```

```java
        System.out.println ("Student Not found");
        }
    }
    catch (InputMismatchException e) {
        System.out.println ("Invalid input");
        input.nextline();
    }
}


public void mainMenu() {
    int choice = 0;

    try {
        do {
            System.out.println (" Student Result Management");
            System.out.println ("1. Add Student");
            System.out.println ("2. Show Student Details");
            System.out.println ("3. exit");
            System.out.println ("4. enter choice")
            choice = input.nextInt();
            if (choice == 1) {
                addStudent();
            }
            else if (choice == 2) {
                showStudentDetails();
            }
            else if (choice == 3) {
```

```java
                system.out.println(" exited successfully");
            }
            else{
                system.out.println("Invalid option");
            }
        }
        while(choice != -3);
    }
    catch(InputMismatchException e){
        system.out.println("Invalid input");
    }
    finally{
        system.out.println("Programe ended");
    }
}
public static void main(String[] args){
    ResultManager obj = new ResultManager();
    obj.mainMenu();
}
}
```

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