Java - ASSIGNMENT - 3

Bhragencler .K. Singh
2401730131

```
import java.util.Scanner;
import java.util.InputMismatchException;


class InvalidMarksException extends Exception {
    public InvalidMarksException(String message){
        super(message);
    }
}

class Student{
    private int rollNumber;
    private String Studentname;
    private int[] marks = new int[3];

    public Student(int rollnumber, String Studentname,
                   int[] marks) throws InvalidMarksExcep-
                   tion
    {
        this.rollNumber = rollnumber;
        this.Studentname = Studentname;
        this.marks = marks;
    }

    public double calculateAverage() {
        int sum =0;
        For (int marks : marks) {
            sum += mark;
        }
        return sum /3.0;
    }
```

```
public void displayResult () {
    System .out. println (" Roll Numba : " + rollnumber);
    System. out. println (" Studentname : " + Student name);
    System. out. print (" Marks : ");
    For (int mark : marks) {
        System. out. println (mark +" ");
    }
    double avg = calculateAverage();
    System. out. println ("\nAverage : " +avg);
    System. out. println("Result: " +(avg>=40?"Pass":
                                    " Fail"));
}

public int getRollnumber(){
    return Roll Numbea;
}
}
}

class ResultManagea {
    private Student[] students = neca Studen[100]
    privete int student Count =0;
    private Scanner scamnea = new Scanna(System.in);

public void add student(){
    try{
        Systen.out.print (" Enter Roll Number : ");
        int roll = scannev. nextInt();
        scanna. next Line(); //consume

        System.out.println(" Enter Student na me: ");
        string name = Scanner. nextLine();
```

```
int[] marks = new int[3];
 For (int i = 0; i<3; i++){
     System.out.println("Enta marks for Subject " + (i+1)+":");
      marks[i] = scanner.nextInt();
 }

Student student = new Student (roll, name, marks);
      Students[StudentCount++] = Student;
System.out.println("Student added successfully.
                    Returning to main menu...\n");
 } catch (InvalidMarksException e) {
      ~~System.out.println("Error: Invalid input type~~
System.out.println("Error: "+ e.getMessage());
 } catch (InputMismatchException e)
{
 System.out.println("Error: Invalid input type.
                     Please enter numeric values.");
    scanner.nextLine();
}
catch (Exception e) {
    System.out.println("Unexpected error: "+
                       ge.getMessage());
}
}

public void showStudentDetails() {
     try{
       System.out.print("Enter Roll Number to search: ");
       int roll = scanner.nextInt();
       boolean found = false;
```

```
For (int i = 0;  i < Student count;  i++) {
    if (Students[i].get Roll Number() == roll) {
            Student [i].display Result ();
             Found = true;
             break;
        }
}

    if (!found) {
        System.out.println ("Student with Roll Nomber " +
                                roll + " not Found.");
        }
}

catch (InputMismatch Exception e) {
    System.out.println ("Error: Invalid Input type.");
    Scanner.nextLine();
} Finally {
    System.out.println ("Search compleated.");
    }
}

public void main Menu() {
    int choice = 0;

do {
System.out.println ("===== Studet Result Managent
                                    System ======");

System.out.println ("1. Add Student");
System.out.println ("2. Show student detail s");
System.out.println ("3. Exit");
System.out print ("Enter you choice");
```

```
try {
choice = scanner.nextInt();
switch (choice) {
 case 1
  add Student();
  break;
 case 2:
 showStudent Details();
  break;
 case3:
 System.out.println(" Exiting Program Thank you! ");
  break;
 default:
  System.out.println("Invalid choice. Try again.");
}
catch (InputMismatchException e){
    System.out.println(" Error: Please enta a valid numbr)
    scanner.nextline();
}
} }
while(choice!=3);
 scanner.close();
}
public static void main(String[] args){
 Result Mangaya manger = new Result Mangaya ();
    mangger.mainMenu();
}
}
```