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Java

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BTech CSE DS

```
import java.util.scanner;
class InvalidMarksException extends Exception {
   public InvalidMarksException (String msg){ .
     super (msg);
  }
}

class Student {
  int roll;
  String name;
  int [] marks = new int [3];

public student (int roll, string name, int []
marks){
            this.roll = roll;
            this.name = name;
            this.marks = marks;
    }
public void checkMarks() throws InvalidMarksException{
    for (int i =0; i< marks.length; i++) .
  {
    if (marks [i] <0 || marks [i] >100) .
{
throw new InvalidMarksException ("Invalid Marks for"
 +(i+1)+":"+ marks[i] );
}
 }
}
```

```
public double avg (){
  int sum =0;
  for (int m : marks ) sum+= m;
   return sum / 3.0;
      }

 void show(){
Sout (" Roll: " + roll);
Sout (" Name: " + name);
Sout (" Marks: " + marks[0] +"  " + mark[1] +
"    " + marks [2]);
   double a = avg();
  Sout (" Avg: " +a);

Sout (a>=40 ? "Result : Pass " : "Result : Fail ");
   }
}

public class ResultApp {
Student [] list = new Student [50];
int count =0;
Scanner sc = new Scanner (System.in);

public void ~~Add~~ addStudent (){
 try {
     Sout (" Enter Rollno : ");
     int roll = sc. nextInt ();

Sout (" Enter Name : "); ;
String name = sc. nextLine ();
```

```
 int []m = new int [3];
 for (int i = 0; i < 3 ; i++){
 Sout ("Enter marks: " +(i+1)+ ":");
  m[i] = sc.nextInt();
  }
 Student s = new Student (roll , name , m);
       s.chickMarks ();
       list [count ++] = s;

Sout ("Student added successfully. ");
   }
   Catch (InvalidMarksException e ){
Sout ("Error: " + e.getMessage());
      }
   catch (Exception e) {
    Sout ("Input Invalid");
    }
 finally {
  Sout ("Returning to main menu ");
   }
 }
 public void showStudent (){
try {
 Sout ("Enter Roll: ");
 int roll = sc.nextInt();
 boolean found = false;
for (int i =0; i < count ; i++){
 if (list [i].roll == roll ){
     list [i] . show ();
     found = true;
     brak;
 }
}
```

```
    if(! found)
Sout (" Student not found.");
    }
catch (Exception e) {
    Sout ("Error while searching");
finally {
        Sout ("Search completed");
  }
}
 public void menu (){
 int ch;

try {
  while (true ){
    Sout ("Student Result System");
     Sout ("1. Add Student");
    Sout ("2. Show Details");
    Sout ("3.  Exit");
  Sout ("Enter your choice");
            Ch = sc. nextInt();
            switch (Ch) {
            case 1:  addStudent ();
            case 2:  showStudent ();
            case 3:
    Sout ("Exiting");
  return;
  default;
 Sout ("invalid choice");
        }
    } finally {
            sc. close();
   }
}
```

```
psvm (string [] args){
 ResultApp app = new ResultApp();
  app. menu ();
 }
}.
```