

ASSIGNMENT-3

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Date

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```
import java.util.Scanner;
public class ResultManager {
    Student[] s = new Student[100];
    int c=0;
    Scanner sc = new Scanner(System.in);

    public static void main(String []a) {
        new ResultManager().menu();
    }

    void menu() {
        try {
            while (true) {
                System.out.println("1.Add 2.Show 3.Exit");
                System.out.print("Choice: ");
                int ch = Integer.parseInt(sc.nextLine());
                if (ch==1) add();
                else if (ch==2) show();
                else if (ch==3) break;
                else System.out.println("Invalid");
            }
        } finally {
            sc.close();
        }
    }

    void add () {
        try {
            System.out.print("Roll: ");
            int r = Integer.parseInt(sc.nextLine());
        }
    }
}
```

```

System.out.print("Name: ");
String n = sc.nextLine();
int[] m = new int[3];
for (int i = 0; i < 3; i++) {
    System.out.print("Marks " + (i + 1) + ": ");
    m[i] = Integer.parseInt(sc.nextLine());
}
Student st = new Student(r, n, m);
st.validate();
s[c++] = st;
System.out.println("Added");
} catch (InvalidMarksException | NumberFormatException e) {
    System.out.println(e.getMessage());
}
}

void show() {
    System.out.print("Roll search: ");
    int r;
    try {
        r = Integer.parseInt(sc.nextLine());
    } catch (Exception e) {
        System.out.println("Invalid");
        return;
    }
    for (int i = 0; i < c; i++) {
        if (s[i].roll == r) {
            System.out.println("Name: " + s[i].name);
            System.out.print("Marks: ");
            for (int x : s[i].marks) System.out.print(x + " ");
            System.out.println("Avg: " + s[i].avg());
            System.out.println("Result: " + (s[i].pass()) ? "Pass" : "Fail"));
        }
    }
}

```

```

        return;
    }
}

```

```

System.out.println("Not found");
}

```

```
class Student {
```

```
    int roll;
```

```
    String name;
```

```
    int[] marks;
```

```
Student (int r, String n, int[] m) {
```

```
    roll = r;
```

```
    name = n;
```

```
    marks = m;
```

```
}
```

```
void validate () throws InvalidMarksException {
```

```
    for (int x : marks)
```

```
        if (x < 0 || x > 100)
```

```
            throw new InvalidMarksException("Invalid marks: "+x);
```

```
}
```

```
double avg () {
```

```
    return (marks[0] + marks[1] + marks[2]) / 3.0;
```

```
}
```

```
boolean pass () {
```

```
    for (int x : marks) if (x < 35) return false;
```

```
    return true;
```

```
}
```

```
class InvalidMarksException extends Exception {
```

```
    InvalidMarksException (String msg) { super (msg); }
```

```
}
```