



Mo Tu We Th Fr Sa Su

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```
import java.util.*;
```

```
class InvalidMarksException extends Exception {  
    InvalidMarksException(String msg) { super(msg); }  
}
```

```
class Student {
```

```
    int roll;
```

```
    String name;
```

```
    int[] marks;
```

```
    Student(int roll, String name, int[] marks) {
```

```
        this.roll = roll;
```

```
        this.name = name;
```

```
        this.marks = marks;
```

```
    }
```

```
    void validateMarks() throws InvalidMarksException {
```

```
        for (int m : marks)
```

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

```
                throw new InvalidMarksException("Marks must be 0-100");
```

```
    }
```

```
    double avg() {
```

```
        int sum = 0;
```

```
        for (int m : marks) sum += m;
```



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```
    return sum / 3.0;
```

```
}
```

```
void display() {
```

```
    System.out.println("Name: " + name);
```

```
    System.out.println("Roll: " + roll);
```

```
    for (int i = 0; i < 3; i++)
```

```
        System.out.println("subject" + (i+1) + ": " + marks[i]);
```

```
    double a = avg();
```

```
    System.out.println("Average: " + a);
```

```
    System.out.println(a >= 40 ? "PASS" : "FAIL");
```

```
}
```

```
}
```

```
class ResultManager {
```

```
    Scanner in = new Scanner(System.in);
```

```
    Student[] list = new Student[100];
```

```
    int count = 0;
```

```
    void addStudent() {
```

```
        try {
```

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

```
            int r = in.nextInt(); in.nextLine();
```



```
System.out.println("Name:");  
String n = in.nextLine();
```

```
int[] m = new int[3];  
for (int i = 0; i < 3; i++) {  
    System.out.println("Marks" + (i+1) + ":");  
    m[i] = in.nextInt();  
}
```

```
Student s = new Student(r, n, m);  
s.validateMarks();
```

```
list[count++] = s;  
System.out.println("Added successfully!\n");  
} catch (Exception e) {  
    System.out.println("Error: " + e.getMessage());  
}
```

```
}
```

```
void showStudent() {  
    System.out.println("Enter Roll:");  
    int r = in.nextInt();
```




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```
for (int i = 0; i < count; i++) {  
    if (list[i].roll == r) {  
        list[i].display();  
        return;  
    }  
}
```

```
}
```

```
System.out.println("Student Not Found!");  
}
```

```
void menu() {
```

```
    int ch;
```

```
    do {
```

```
        System.out.println("\n1. Add student\n2. Show  
        student\n3. Exit");
```

```
        System.out.print("choice:");
```

```
        ch = in.nextInt();
```

```
        switch (ch) {
```

```
            case 1 -> addStudent();
```

```
            case 2 -> showStudents();
```

```
            case 3 -> System.out.println("Exited!");
```

```
            default -> System.out.println("Invalid!");
```



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}

} while (ch != 3);

}

public static void main (String[] args) {

new ResultManager().main();

}

}