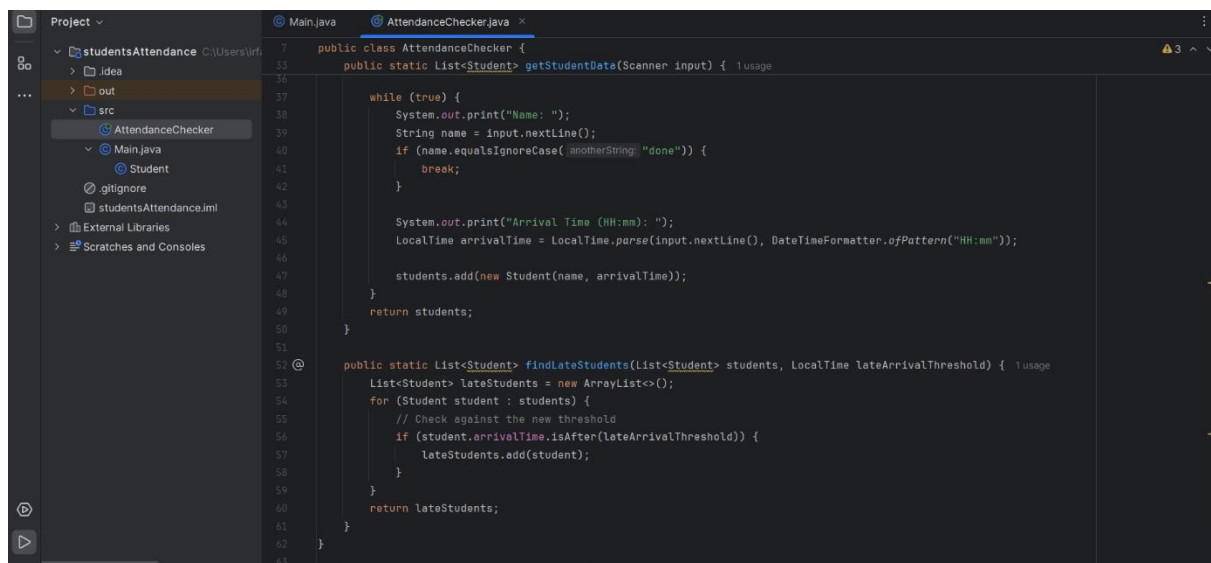


Name Muhammad irfan

Reg No. FA21-BSE-027

Lab task : 04

Late Student Attendance Checker



```
Project ▾
└─ studentsAttendance C:\Users\irf...
   └─ > idea
      └─ > out
         └─ > src
            └─ AttendanceChecker
               └─ Main.java
                  └─ Student
                     └─ .gitignore
                        └─ studentsAttendance.iml
                           └─ External Libraries
                              └─ Scratches and Consoles

Main.java
AttendanceChecker.java
7 public class AttendanceChecker {
33 public static List<Student> getStudentData(Scanner input) { 1 usage
34
37 while (true) {
38     System.out.print("Name: ");
39     String name = input.nextLine();
40     if (name.equalsIgnoreCase("done")) {
41         break;
42     }
43
44     System.out.print("Arrival Time (HH:mm): ");
45     LocalDateTime arrivalTime = LocalDateTime.parse(input.nextLine(), DateTimeFormatter.ofPattern("HH:mm"));
46
47     students.add(new Student(name, arrivalTime));
48 }
49 return students;
50 }
51
52 @
53 public static List<Student> findLateStudents(List<Student> students, LocalDateTime lateArrivalThreshold) { 1 usage
54 List<Student> lateStudents = new ArrayList<>();
55 for (Student student : students) {
56     // Check against the new threshold
57     if (student.arrivalTime.isAfter(lateArrivalThreshold)) {
58         lateStudents.add(student);
59     }
60 }
61 return lateStudents;
62 }
63 }
```

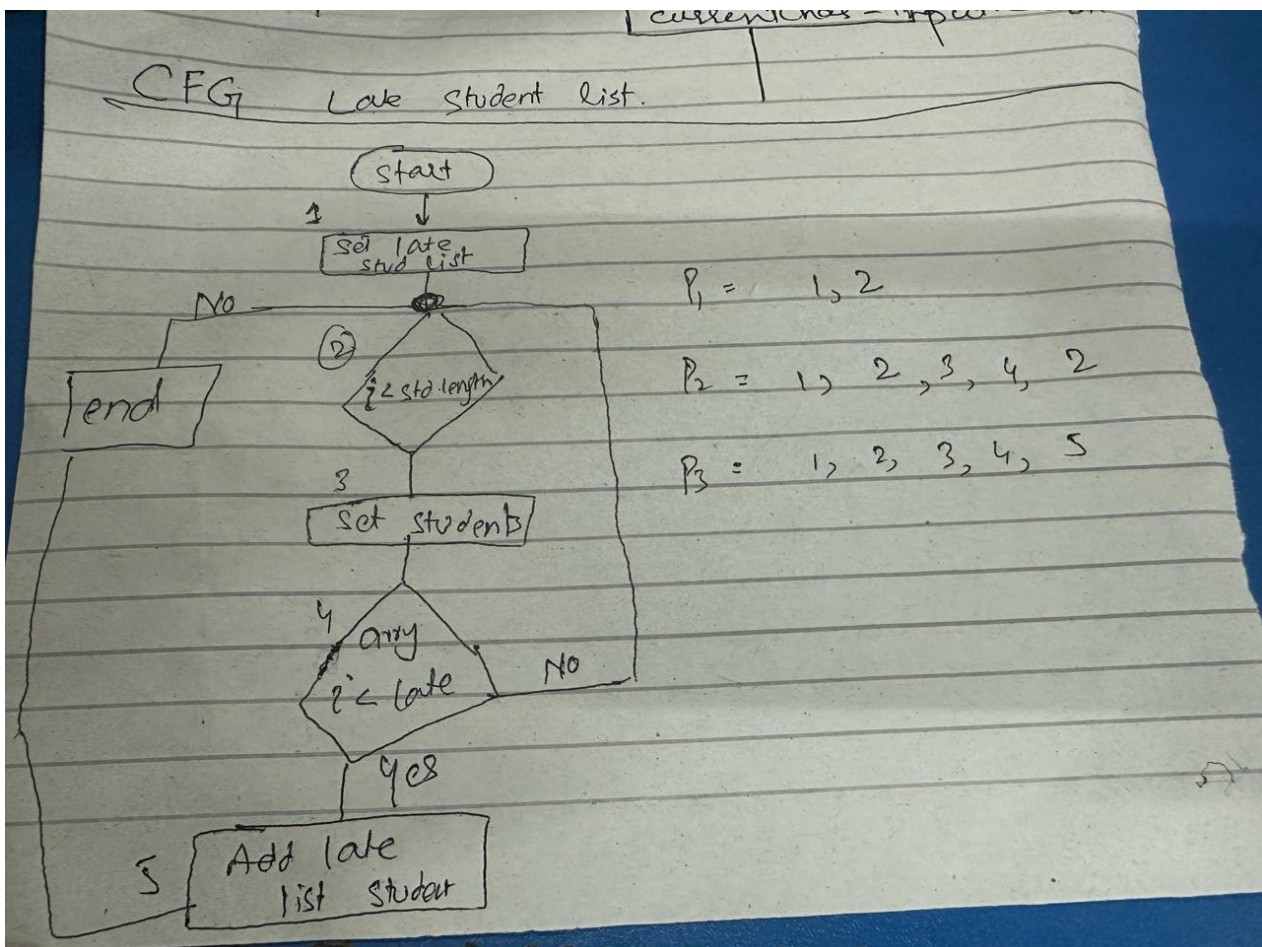
Output:

```
Run AttendanceChecker x
C:\Users\irfan\.jdk\openjdk-22.0.1\bin\java.exe
Enter class start time (HH:mm): 08:00
Enter students (enter 'done' to finish):
Name: ali
Arrival Time (HH:mm): 08:02
Name: irfii
Arrival Time (HH:mm): 08:11
Name: done

Late Students:
irfii (Arrived at: 08:11)

Process finished with exit code 0
```

CFG



Listing the Paths

After analyzing your image CFG, list out the paths you've identified in a clear way. For example:

Path 1:

Start --- Get Class Start Time ---> Student Loop (0 times) ----> Calculate Late Threshold -> ... -> End

Path 2:

Start ---> Get Class Start Time ----> Student Loop (1 time) -----> Check Arrival Time -----> No Late Students -> -----> End

Path 3:

Start ----> Get Class Start Time ----> Student Loop (1 time) ---> Check Arrival Time ----> Late -> Add to Late List ->-----> End

Test Cases:

Test Case ID	Description	Expected Outcome	Coverage Criteria
TC01	No students entered (input "done").	"All students arrived on time!" message.	Statement, Branch
TC02	One student on time (arrival before time deadline).	Student's name not included in the late student list.	Statement, Branch, Decision
TC03	One student late (arrival after time deadline).	Student's name included in the late student list.	Statement, Branch, Decision
TC04	Multiple students, some on time, some late.	List should include only the late students.	Statement, Branch, Decision