ASSIGNMENT-1

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Batch - 19

Assignment 1: Maximum Non-Overlapping Meetings (Greedy)

Problem Statement

You are given N meetings. Each meeting has a start time Si and an end time Ei. You want to attend the maximum number of meetings. You can attend meeting j after meeting i only if the start time of meeting j is strictly greater than the end time of meeting i (Sj > Ei). For each test case, output the maximum number of meetings that can be attended.

Input Format

The first line contains an integer T, the number of test cases.For each test case:

- The first line contains an integer N.
- The next N lines each contain two integers Si and Ei.

Output Format: For each test case, print a single integer: the maximum number of meetings that can be attended. Constraints

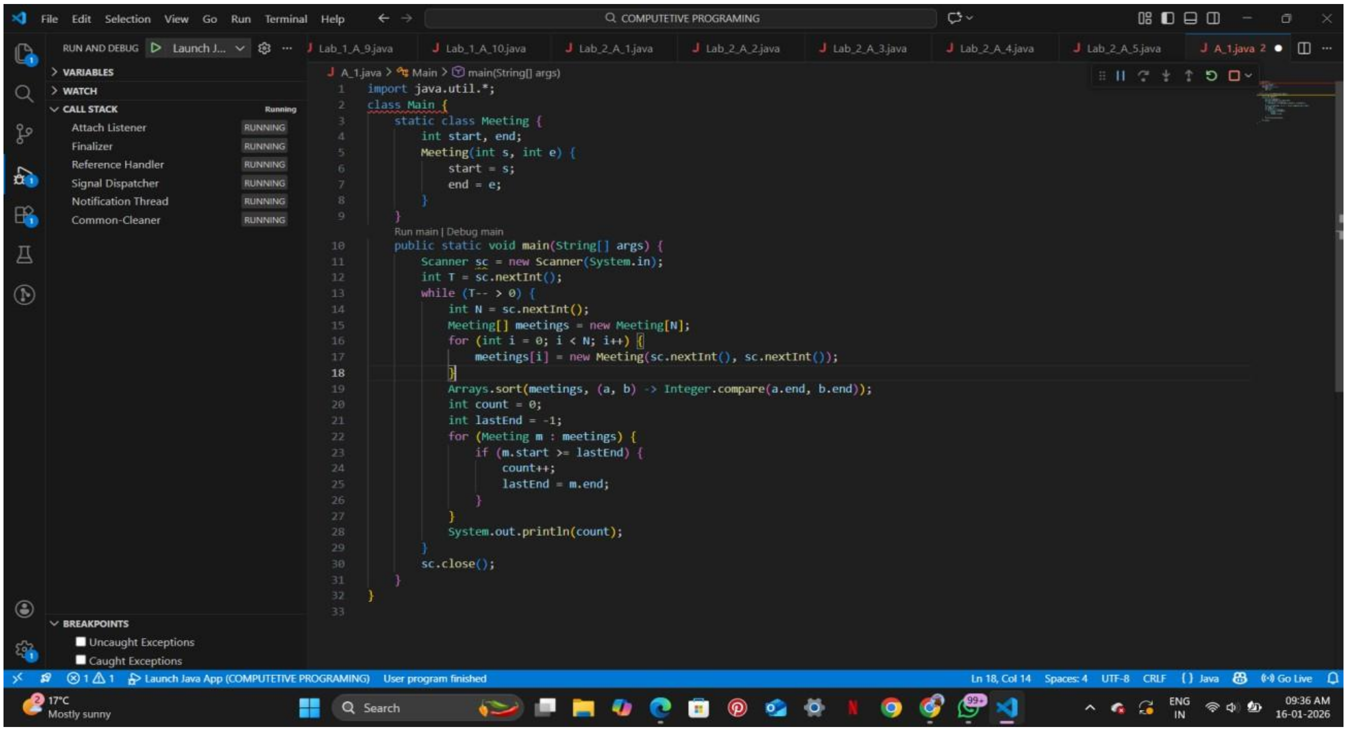
- 1 ≤ T ≤ 20
- 1 ≤ N ≤ 200000 (sum of N over all test cases ≤ 200000)
- 0 ≤ Si < Ei ≤ 10^9

Sample Input

```
1
3
1 3
2 4
3 5
```

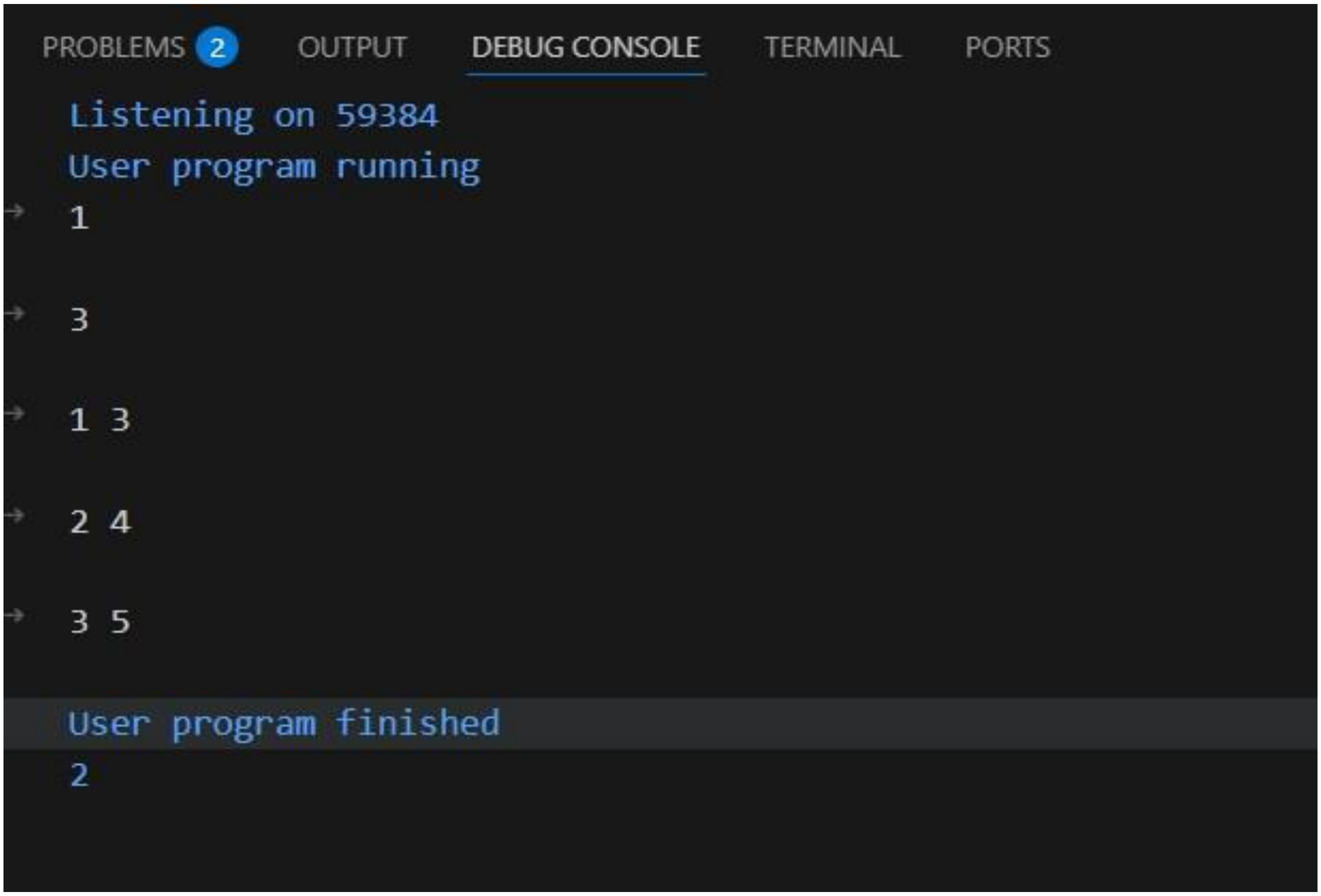
Expected Output 2

ASSIGNMENT-1



```java
import java.util.*;
class Main {
    static class Meeting {
        int start, end;
        Meeting(int s, int e) {
            start = s;
            end = e;
        }
    }
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int T = sc.nextInt();
        while (T-- > 0) {
            int N = sc.nextInt();
            Meeting[] meetings = new Meeting[N];
            for (int i = 0; i < N; i++) {
                meetings[i] = new Meeting(sc.nextInt(), sc.nextInt());
            }
            Arrays.sort(meetings, (a, b) -> Integer.compare(a.end, b.end));
            int count = 0;
            int lastEnd = -1;
            for (Meeting m : meetings) {
                if (m.start >= lastEnd) {
                    count++;
                    lastEnd = m.end;
                }
            }
            System.out.println(count);
        }
        sc.close();
    }
}
```

User program finished



```
Listening on 59384
User program running
1

3

1 3

2 4

3 5

User program finished
2
```

ASSIGNMENT-1