

# COMPETITIVE PROGRAMMING

## Assignment-1

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B-07

### Maximum Non-Overlapping Meetings (Greedy)

#### Algorithm:

1. Read integer **t** (number of test cases).
2. Repeat the following steps **t** times:
  - a. Read integer **n** (number of meetings).
  - b. Read **n** pairs of integers (**Si**, **Ei**) representing start and end times of meetings.
  - c. Store all meetings in a list.
  - d. Sort the meetings in **ascending order of end time (Ei)**.
  - e. Select the first meeting and initialize:
    - i. count = 1
    - ii. lastEnd = end time of the first meeting
  - f. For each remaining meeting from the second to the last:
    - i. If  $Si \geq lastEnd$ , select the meeting:
      1. Increment count
      2. Update  $lastEnd = Ei$
  - g. Output the value of count.
3. End.

## Code and output:

The image shows a code editor interface with a dark theme. At the top, there's a status bar with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (which is underlined, indicating it's active), and PORTS. Below the status bar is a terminal window showing command-line interaction.

In the code editor, the file `ass_1.py` contains the following Python code:

```
ass_1.py > ...
1  t=int(input())
2  for _ in range(t):
3      n=int(input())
4      meetings=[]
5      for i in range(n):
6          s,e=map(int,input().split())
7          meetings.append((s,e))
8      meetings.sort(key=lambda x:x[1])
9      count=1
10     lastEnd=meetings[0][1]
11     for i in range(1,n):
12         if meetings[i][0]>=lastEnd:
13             count+=1
14             lastEnd=meetings[i][1]
15     print(count)
16
```

The terminal window below shows the command `& C:/Users/harsh/AppData/Local/Programs/Python/Python314/python.exe c:/AAC_1.py` being run, followed by the output of the program:

```
PS C:\AAC_> & C:/Users/harsh/AppData/Local/Programs/Python/Python314/python.exe c:/AAC_1.py
1
3
1 3
2 4
3 5
2
PS C:\AAC_>
```