

Lab-9

Name: E. Jayanth Reddy

Reg.no:19BCE7548

1Q: Efficient online bet.

Code:

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

```
import java.lang.*;
```

```
class Main
```

```
{
```

```
    static void PrintArray(int n,int arr[])
```

```
    {
```

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

```
        {
```

```
            System.out.print(arr[i] + " ");
```

```
        }
```

```
    }
```

```
    static void NumberOfSegments(ArrayList<int[]>  
segments,int[] points, int s, int p)
```

```
    {
```

```
ArrayList<int[]> pts = new ArrayList<>(), seg = new  
ArrayList<>();
```

```
for(int i = 0; i < p; i++)  
{  
pts.add(new int[]{points[i], i});  
}
```

```
for(int i = 0; i < s; i++)  
{  
seg.add(new int[]{segments.get(i)[0], 1});
```

```
seg.add(new int[]{segments.get(i)[1] + 1, -1});  
}
```

```
Collections.sort(seg, (a, b) -> b[0] - a[0]);
```

```
Collections.sort(pts, (a, b) -> a[0] - b[0]);
```

```
int count = 0;
```

```
int[] ans = new int[p];
```

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

```
{  
int x = pts.get(i)[0];  
  
while (seg.size() != 0 && seg.get(seg.size() - 1)[0] <= x)  
{  
count += seg.get(seg.size() - 1)[1];  
seg.remove(seg.size() - 1);  
}  
ans[pts.get(i)[1]] = count;  
}
```

```
PrintArray(p, ans);  
}
```

```
public static void main(String[] args)  
{  
ArrayList<int[]>seg = new ArrayList<>();  
  
seg.add(new int[]{2, 3});  
seg.add(new int[]{0, 5});  
seg.add(new int[]{7, 10});
```

```
int[] point = {1, 6, 11};
```

```
int s = seg.size();
```

```
int p = point.length;
```

```
NumberOfSegments(seg, point, s, p);
```

```
}
```

```
}
```

Output:

A screenshot of a console window with a black background and green text. The window has a title bar at the top with a left arrow, a checkmark, a cursor icon, and a trash icon. The output text is: "1 0 0" on the first line, "...Program finished with exit code 0" on the second line, and "Press ENTER to exit console." on the third line, followed by a white cursor icon.

```
1 0 0

...Program finished with exit code 0
Press ENTER to exit console.
```