

CSE3004

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CODE:

OnlineBetEfficient

```
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);
}
}

```

ANALYSIS:

Online bet efficient

```
def fast_count_segments (starts, end, pts)
    cnt = {}
    segments_num = 0
    collection.sort (seg, a, b) → b[c] - a[a];
    collection.sort (seg, a, b) → a[a] - b[b];
    for (int i = 0; i < p; i++)
        int x = pts.get(i)[0];
        while (cseg.size() != 0 && seg.get(cseg.size() - 1)[0] <= x)
        {
            count += seg.get(cseg.size() - 1)[1];
        }
        ans[pts.get(i)[1]] = count;
    O((c+p) * log(c+p))
```

OUTPUT:

```
Command Prompt
Microsoft Windows [Version 10.0.19042.1288]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Dell>cd OneDrive
C:\Users\Dell\OneDrive>cd Desktop
C:\Users\Dell\OneDrive\Desktop>cd cse3004-19bce7653
C:\Users\Dell\OneDrive\Desktop\cse3004-19bce7653>cd lab8-onlinebet
C:\Users\Dell\OneDrive\Desktop\cse3004-19bce7653\lab8-onlinebet>javac Main.java
C:\Users\Dell\OneDrive\Desktop\cse3004-19bce7653\lab8-onlinebet>java Main
1 0 0
C:\Users\Dell\OneDrive\Desktop\cse3004-19bce7653\lab8-onlinebet>
```