LAB-9

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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: