

eclipse-workspace - Assisted Project3/src/prog17/RangeQueries.java - Eclipse IDE

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Package Explorer

Assisted Project1

JRE System Library [JavaSE-1.8]

src

prog15

Main.java

Assisted Project2

JRE System Library [JavaSE-1.8]

src

prog16

KTS.java

Assisted Project3

JRE System Library [JavaSE-1.8]

src

prog17

RangeQueries.java

Assisted Project4

Assisted Project5

Assisted Project6

Assisted Project7

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Assisted Project9

JavaProgram1

JavaProgram10

JavaProgram11

JavaProgram12

JavaProgram2

JavaProgram3

JavaProgram4

JavaProgram5

JavaProgram6

JavaProgram7

```
1 package prog17;
2
3 public class RangeQueries {
4     static int k = 16;
5     static int N = 100000;
6     static long table[] = new long[M[k + 1]];
7     static void buildSparseTable(int arr[], int n)
8     {
9         for (int i = 0; i < n; i++)
10             table[i][0] = arr[i];
11         for (int j = 1; j <= k; j++)
12             for (int i = 0; i <= n - (1 << j); i++)
13                 table[i][j] = table[i][j - 1] + table[i + (1 << (j - 1))][j - 1];
14     }
15     static long query(int L, int R)
16     {
17         long answer = 0;
18         for (int j = k; j >= 0; j--)
19         {
20             if (L + (1 << j) - 1 <= R)
21             {
22                 answer = answer + table[L][j];
23                 L += 1 << j;
24             }
25         }
26         return answer;
27     }
28
29     public static void main(String[] args) {
30         // TODO Auto-generated method stub
31         int arr[] = { 3, 7, 2, 5, 8, 9 };
32         int n = arr.length;
33         buildSparseTable(arr, n);
34         System.out.println(query(0, 5));
35         System.out.println(query(3, 5));
36         System.out.println(query(2, 4));
37     }
38 }
39
40
```

