
Group 11
Please hold your applause

Our Algorithm

We used a manual bucket sort with the default merge sort in java.

-Arraylist.sort

Manually made 10 arrays to place the items to be sorted according to the sum of the first four digits mod 10.

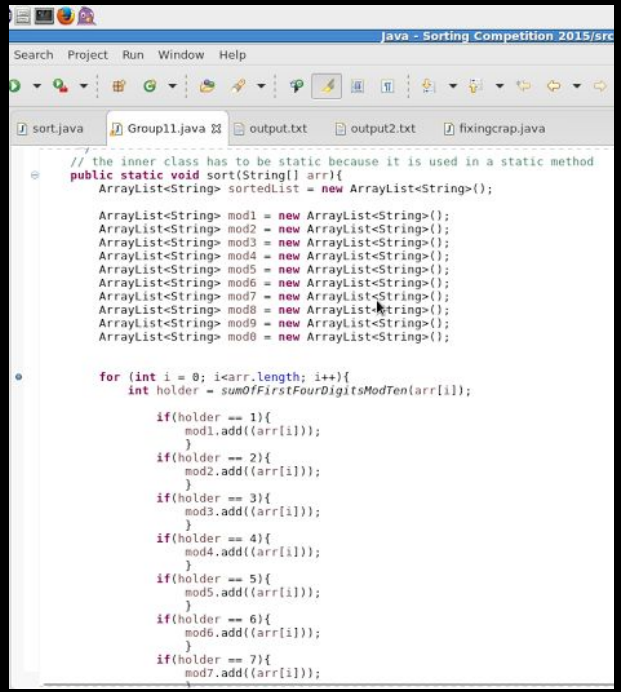
Sorted each array in turn and manually appended each of them in the correct order and then returned the appended array.

Worst Case

Seeing as we used bucket sort and then the default sort, merge sort, in absolute worst case it would be n^2 where it would have to traverse the things to be sorted everytime it went through the data.

The expected case would be along the same lines where it has to traverse the array several times, our intuition says O(n + k) where k is the number of buckets and in this case, it is 10.

Here’s our manual Buckets



Aren’t they pretty?