Closest Pair Report

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Results

Our implementation produces the expected results on all input–output file pairs. Looking at the handed-out output file, we get the same shortest pair of point values.

The following table shows the closest pairs in the input files `wc-instance-*.txt`. Here n denotes the number of points in the input, and (u, v) denotes a closest pair of points at distance δ.

n	u	v	δ
2	0	1	1
[...]			

Implementation details

We resort by y-coordinates in each recursive step.

For the comparison of points close to s in S_y we inspect 15 points, as explained (5.10) of Kleinberg and Tardos, *Algorithm Design*, Addison–Wesley 2008. Here is the corresponding part of our code:

```
min = [...]
for (s [...]
  for [...]
    if (s.distance(...) < min) [...]
```

Our running time is $O(n \log n)$ for n points. [1]

[1] Change or delete as necessary, add anything else you find interesting about your implemenation.