



## 1001. Single-link Clustering

Total: 143 Accepted: 45

### Description

Time Limit: 1sec Memory Limit:256MB

Given  $n$  nodes in a two-dimensional space, we want to use single-link clustering method to find  $k$  clusters. This is equivalent to finding an MST (Minimum spanning tree) of these nodes and deleting  $k-1$  longest edges.

Your job is to output the length of the  $(k-1)$ -th longest edges of the MST.

### Input

There are multiple cases. For each case, the first line includes  $n$  and  $k$  ( $2 \leq k \leq n \leq 100$ ). The following  $n$  lines give the coordinates of  $n$  nodes. You may use Euclidean distance to measure the distance between two nodes.

### Output

For each case, output the length of the  $(k-1)$ -th longest edges of the MST. The precision is set to 2 digits after the decimal point.

### Sample Input

[Copy](#)

```
6 2
1 1
2 1
1 2
3 3
4 2
4 3
```

### Sample Output

[Copy](#)

```
2.24
```

[Submit](#)