**8. Jobs**

# Program Name: Jobs.java Input File: jobs.dat

You’re exploring some dungeons that have x-y coordinates. Your base is at the origin (0, 0). Given the location of each dungeon you have to visit today, what is the shortest path you can take that starts at base, visits every dungeon once, and returns to base?

**Input**

The first line of input will contain a single integer n that indicates how many test cases to follow. The first line of each test case will be a single integer greater than 2 j that indicates the number of jobs you have taken for that test case. For each job, there are 2 integers: x, that dungeon’s x-position on the Compass Coordinate System, and y, its y-position, and a string that encompasses the rest of the line dungeon, the name of the dungeon.

**Output**

For each test case, print out the shortest distance formatted to 2 digits after the decimal place that you could travel and still visit all the dungeons.

**Example Input File**

2

3

1 3 Cypress Woods High School

4 4 Tiny Woods

8 2 Ashay's House

5

-10 10 Sea of Wonders

25 39 Raising Cane's Chicken Fingers

3 -40 Treasure Town

0 75 Jones BBQ and Foot Massage

-482 -64 Serene Village

**Example Output to Screen**

TODO