

CMPE 252 - C Programming, Spring 2021

Prelab 1

In this prelab assignment, you are going to implement the following function in skeleton code (lab1pre.c):

```
void readPointsFindBoundingBox(double *bottomLeftX, double *bottomLeftY,  
double *widthp, double *heightp);
```

This function is supposed to do the following tasks:

- Read x and y coordinates of points using `scanf` function.
- Find bounding box of the points in terms of x and y coordinates of its bottom-left corner, its width, and its height.
- Return the bounding box (in terms of x and y coordinates of its bottom-left corner, its width, and its height) through the pointer variables listed in the function's formal parameter list.

When you run the program by directing the input from inp1.txt file, the output will be as follows:

Bounding box

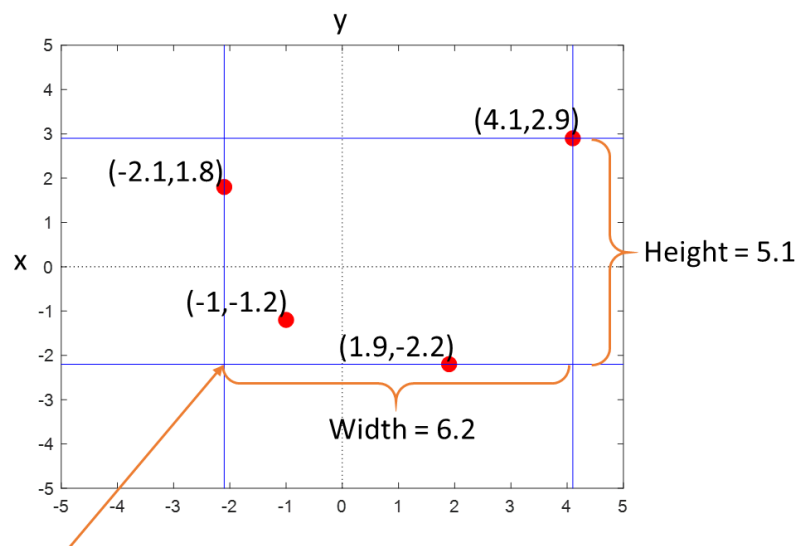
Bottom-left corner: (-2.10 -2.20)

Width: 6.20

Height: 5.10

The figure below shows the points listed in inp1.txt as well as their bounding box represented by its bottom-left corner, width, and height.

Hint: Notice that bounding box of points is determined by min and max of x and y coordinates of the points.



Bottom-left corner: (-2.1, -2.2)

If there are no points in the input file such as inp2.txt, the output will be as follows:

Bounding box

Bottom-left corner: (0.00 0.00)

Width: 0.00

Height: 0.00

When you run the program by directing the input from inp3.txt file, the output will be as follows:

Bounding box

Bottom-left corner: (-3.40 -1.70)

Width: 6.60

Height: 6.00