CSE 121 -- Introduction to "C"

Extra Credit #4
Due: on last day of class by 11:59PM
(Worth 15pts)

Name your program: extra4.c

Enter the following code to calculate the distance between two points on the x, y plane. The program asks a user to enter 2 points, then calculates the distance between the 2 points and prints out the distance on the screen. You need to replace any "?" with the appropriate code.

```
#include <stdio.h>
#include <math.h>

struct point
{
    float x;
    float y;
};

float distance (struct point, struct point);
void  enter_a_point ( struct point * );
```

Since you are using the math library, you'll need to include the -lm option when compiling, for example: gcc extra4.c -lm -o extra4

```
int main (void)
{
    struct point pt1, pt2;

    enter_a_point( ? ); //get x & y values for pt1
    enter_a_point( ? ); //get x & y values for pt2
    printf( "Distance between the points = %.2f\n", distance(?, ?) );

    return 0;
}
```

```
float distance (struct point p1, struct point p2)
{

    return sqrt( pow( ?, 2) + pow( ?, 2) );
}

void enter_a_point ( struct point *p )
{
    printf("\nEnter an X coordinate: ");
    scanf("%f", ?);

    printf("\nEnter a Y coordinate: ");
    scanf("%f", ?);
}
```

Distance Formula

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Use the following command to submit your extra4.c code

cp extra4.c /home/faculty/skoss/cse121/your_UID