Lab Activity 5 Linked List

Q1: Create a class Point to store cartesian coordinates (x,y).

- Make default constructor, overloaded constructor, and copy constructor
- Add a function display() which shows the point as (x,y) on screen.
- Create a function in main class that takes two points as arguments and calculates the distance between them.

Q2: Make a class Rectangle. It should store the coordinates of it's top-left and bottom-right vertices as Points.

- Make default constructor, overloaded constructor, and copy constructor for this class.
- Add function get_height() that returns the height of rectangle.
- Add function get_width() that returns the width of rectangle.
- Add a function area() of this class that should return the area of the rectangle.
- Create a function in the main class intersecct() that takes two rectangles as arguments and returns true if they intersect, otherwise returns false.
- Create a stack of Rectangles in the main and push/pop rectangles

Q3. Write a C++ program that reads in words from a file, discarding any strings that do not look like words. The words must be stored in alphabetical order in a queue, with each node holding the word and a count of the number of occurences of the word. The output should look something like this (format is not important):

```
Cannot(1) Char(1) InputFile(2) MyString(1) ReadWordsFromFile(1) Usage(1)
Word(3) WordCount(1) a(1) arguments(1) at(2) cerr(2) cout(9) else(5) end(1)
error(1) file(1) for(1) if(8) ifstream(1) int(4) is(1) larger(1) linked(1)
list(3) not(1) of(1) open(1) out(1) stopped(2) string(2) struct(1) to(1)
typedef(1) void(2) while(3) word(1) wordcounter(1)
```

---------------------- Good Luck -----------------------------------