MA/CSSE Homework 5
Due 4/20

Directions
Create a file `complex.h` which implements a `complex` struct. The struct should have fields `real` and `imag` of type double. In `complex.h` implement functions to add, subtract, multiply, and calculate the **squared** norm of a complex number (this way you don't need square roots).

Download `julia_stripped.c`. Rename it to `julia.c`. Implement the escape-time algorithm to make a program that creates an image of a Julia set. The exact coloring details are left up to you (correctness is demanded, but beauty is much appreciated!).

Your program should support all the options that I provided with `julia_stripped.c`. Most of those options are taken care of for you already. However, you should not use an undue amount of memory. For example, if you are creating a greyscale `.bmp` file, you should not allocate memory for three separate arrays. If you are creating a monochrome bitmap file, you should not allocate an array of `double`.

Turn in your file `complex.h` as well as `julia.c` to the Moodle dropbox. **Make sure** that your code will compile with only the command `gcc julia.c -o julia`.