**HOMEWORK**

Write a complete program that accomplishes the following tasks:

~~Display a friendly greeting to the user~~

~~Prompt the user for a complex number; call it a.~~

~~Accept that complex number using cin.~~

~~Display that complex number using cout.~~

~~Prompt the user for a complex number; call it b.~~

~~Accept that complex number using cin.~~

~~Display that complex number using cout.~~

~~Display a line of code that states whether or not a is the same as b, using ==~~

~~Display a line of code that states whether or not a is different from b, using !=~~

Create a new complex number; call it c.

Make c the sum of a and b, using c = a + b

Display the result using cout

Add a to c using c += a

Display the result using cout

Subtract b from c using c -= b

Display the result using cout

Make c the difference of a and b, using c = a – b

Display the result using cout

Make c the product of a and b, using c = a \* b (see note below)

Display the result.

Create complex numbers x, y, and z, and display the results of x = y = z = c

Display a double type-cast to a ComplexNumber.

Display a ComplexNumber type-cast to a double.

The product of two complex numbers is found as follows:

if a = ar + ai i and b = br + bi i then

the real part of a \* b = ar\* br – ai \* bi

and the imaginary part of a \* b = ar \* bi + ai \* br

As always, provide source and executable on a USB drive, and a printout of the source code.