ELEC362 - Week 4

Practical Exercises

Write a code where complex numbers are defined as a class. Such that the user can define a complex number by typing:

Complex a(2,3); // Means a = 2 + j3

Complex b(2); // Means b = 2 + j0

Complex c=2; // Give an error!!

Define the addition (using “+”), multiplication (using “\*”), and division (using “/”) for two complex numbers. In addition to the stream output operator (using “<<”) to display the complex numbers as: “real + j imaginary”.

Questions to think about:

1. What are class constructors? How and why are they used?
2. Can a function from outside the class access its private data? If so how is that possible? Give an example?
3. What are Class destructors and what do they do?
4. How can you encapsulate dynamic memory allocation in an object?
5. What is operator overloading, why and how is it used?