

CS 311: Design and Development of Programming Languages

Assignment 5

- 1) Chapter 10, problem number 1
- 2) Chapter 11, problem numbers:
2 , 4 ,and 10
- 3) Programming assignment: Write an abstract data type for Complex numbers, including operations for addition, subtraction, multiplication, division, extraction of each of the parts of a Complex number, and construction of a Complex number from two floating-point constants or variables. Write a client program to test your ADT. Use C++, Java, or C#.

Hint:

Complex numbers have the form:

$$\text{realpart} + \text{imaginarypart} * i$$

where i is $\sqrt{-1}$

for addition/subtraction of Complex numbers, the real parts are added/subtracted and the imaginary parts are added/subtracted.