

INFSCI 2610 Data Structures
Homework 2
Due: Monday, Feb 9, 2004

1. Consider programs 4.14 and 4.15 for COMPLEX type. Augment these programs with *addition* and *subtraction* operations on two complex numbers. Also implement a function *equal* that tests if two complex numbers are equal or not.
Write a client program to ask the user to input two complex numbers (use any methods you like). Also allow user to indicate what function he wants to perform on the complex numbers. Output your results in an appropriate form.
2. Write the following two functions that compute the function specified in exercise 5.404.
 - a. *RecursiveCN*(int N): computes the value recursively
 - b. *DynamicCN*(int N): computes the value using dynamic programming
3. Write a recursive algorithm for selection sort. Give recursive complexity expression for your algorithm.
4. Exercise 5.71 and 5.78