CS 1713
Introduction to Computer Programming II
Recitation 4

1. (100 pts) Write a program to precompute the Fibonacci numbers and store them in an array. Fibonacci numbers are defined as follows $Fib(0) = 1$, $Fib(1) = 1$ and $Fib(i) = Fib(i-1) + Fib(i-2)$. Recursive implementation of Fibonacci is very slow and precomputing them and storing them in an array makes it easier to answer queries. Allocate an array of size 50 to store Fibonacci numbers and store the i^{th} Fibonacci number at index i. Since Fibonacci numbers increase rapidly use double as element type for array. Have a loop in your program to read i and print i and i^{th} Fibonacci number. Use -1 to quit the loop. Use input redirection to test your program. Note that your program reads from the user using *scanf* and input redirection feeds the file contents to your program. You don't have to use any file operations in your program. Consider the following file *a.txt*

```
4
10
20
15
5
-1
```

Sample output for this recitation using input redirection is as follows

```
fox01> recitation4 < a.txt
4 5.000000
10 89.000000
20 10946.000000
15 987.000000
5 8.000000
```

Name your program *recitation4.c*

Submit your program electronically using the blackboard system