# CHEN3600 – Computer-Aided Chemical Engineering Spring 2012

# Chemical Engineering Department CQ5

**T.D. Placek Auburn University**

 **CQ5 – Familiar Functions**

DO NOT SUBMIT YOUR SOLUTION!

Create a function file named Fib (n) that returns the nth Fibonaci Number. The Fibonaci numbers belong to the following sequence:

1, 1, 2, 3, 5, 8, 13, 21, …

where Fib(1) = Fib(2) = 1 and all other numbers in the series are the sum of the preceding two numbers (that is, 21 = 13+8).

Test your program with Fib(1), Fib(10), Fib(100), and Fib(Fib(20)).

Solution

function [ f ] = placetd\_fib( n )

% Driver for calculation of Fibonci number.

fib(1)

fib(5)

fib(10)

fib(20)

fib(fib(5))

x=1:20;

for k = x

 y(k)=fib(k);

end

plot(x,y)

end

function [ f ] = fib( n )

% Driver for calculation of Fibonci number.

if n <=2

 f=1;

else

 fibN(1) = 1;

 fibN(2) = 2;

 for k = 3:n

 fibN(k) = fibN(k-1) + fibN(k-2);

 end

 f = fibN(end);

end

