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CMP SCI 3130

Project #1 Part A

9/22/2018

*(A)*

*Writing a recursive function to contain that will calculate Fibonacci using recursive definition*.

SOURCE CODE

#include "stdafx.h"

#include <iostream>

#include <ctime>

using namespace std;

int calculateFibonaci(int);

int main()

{

int number;

cout << "Enter a number: " ;

cin >> number;

//validating user input, for number greater than zero only

while (number < 0)

{

cout << "ERROR! Your number must be greater than zero." << endl;

cout << "Enter the number again: " ;

cin >> number;

}

//calling the function to calculate Fibunaci number

cout << "Fibonacci number for n = " << number <<

" is " << calculateFibonaci(number) << endl << endl;

system("Pause");

return 0;

}

/\* Function to calculate Fibunaci Number //

// if n is 0, then it will return 0 since the first element is 0 //

// if n is 1 then it will return 1 since the first element of //

// the sequence is 0 and the second one is 1, their sum equal to 1 //

// if it is a bigger then 1 then by calling itself the function will //

// calculate the sum of the previous elements \*/

int calculateFibonaci(int n)

{

if (n == 1)

{

return 1;

}

if (n == 0)

{

return 0;

}

return calculateFibonaci(n - 1) + calculateFibonaci(n - 2);

}

EXCECUTION

 

 

 