Amarilda Celhaka

Project #1

*(B)*

*Writing an iterative function to calculate Fibonacci Number*

SOURCE CODE

#include "stdafx.h"

#include <iostream>

using namespace std;

int fibonacciFunction(int);

int main()

{

cout << "PART B" << endl;

//the test driven code, if the function of subscript 20

//will return 20 than the function passes the test

assert(fibonacciFunction(5) == 5);

assert(fibonacciFunction(20) == 6765);

cout << "Test passed" << endl;

int subscript;

cout << "Enter the subscript: ";

cin >> subscript;

//validating user input

while (subscript < 0)

{

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

cout << "Enter the subscript again: ";

cin >> subscript;

}

//calling the function to calculate Fibonacci Number

cout << "Fibonaci number of subscript = " << subscript << " is " <<

fibonacciFunction(subscript) << endl;

system("Pause");

return 0;

}

/\* Calculating Fibonacci Number using Iterative Function //

// Firstpostion holds the value of the first element and //

// second positon holds the value of the second element //

// of the sequence. The sum of the two previous elements //

// will reflect the desired fibonacci number \*/

int fibonacciFunction(int n)

{

int firstPosition = 0;

int secondPosition = 1;

int fibonacciNumber = 0;

for (int i = 2; i <= n; i++)

{

fibonacciNumber = firstPosition + secondPosition;

firstPosition = secondPosition;

secondPosition = fibonacciNumber;

}

return fibonacciNumber;

}

-------------------------------------------------------------------------------------------------------------------------------

EXCECUTION

    