Content 16

Recursion and Recursive Function

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When a function calls itself it is called recursion and the function which is calling itself is called a recursive function. The recursive function consists of a base case and recursive condition. It is very important to add a base case in recursive function otherwise recursive function will never stop executing.

#include <iostream>

using namespace std;

int fibonacci(int n){

    if(n<2){

        return 1;

    }

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

}

int main()

{

    int num;

    cout << "Enter a number whose you want fabonaccil of: ";

    cin >> num;

    cout << "The fabonacci is: " << fibonacci(num);

    return 0;

}

**Output:**

Enter a number whose you want factorial of: 5

The Factorial is: 120

**Code2:**

// fabonacci series

#include <iostream>

using namespace std;

int fibonacci(int n){

    if(n<2){

        return 1;

    }

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

}

int main()

{

     int a;

    cout<<"Enter a number"<<endl;

    cin>>a;

       cout<<"The term in fibonacci sequence at position "<<a<< " is "<<fibonacci(a)<<endl;

    return 0;

}

**Output:**

Enter a number

10

The term in fibonacci sequence at position 10 is 89