

```

1  #include<bits/stdc++.h>
2  using namespace std;
3  // static variable in recursion behave like a global variable
4  // int x;
5  int fun(int n)
6  {
7      static int x = 0; // like global variable inside function
8
9      if(n > 0)
10     {
11         x++;
12
13         return fun(n - 1) + x;
14         // Always last x (5) value add in returning time;
15     }
16     else if(n == 0)
17     {
18         return 0;
19     }
20 }
21 int main()
22 {
23     int a = 5;
24
25     cout << fun(a) << endl;
26 }
27
28 /*
29     fun( 5 )      => 25
30     /
31     fun( 4 ) + x   ==> 20 + 5
32     /
33     fun( 3 ) + x   ==> 15 + 5
34     /
35     fun( 2 ) + x   ==> 10 + 5
36     /
37     fun( 1 ) + x   ==> 5 + 5
38     /
39     fun( 0 )       => 0 + 5
40     /
41     0 return
42
43 */

```