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...ssignments\131_Assignment_6\Question_1\Question_1.cpp 1
1 // Question_1.cpp : This file contains the 'main' function. Program execution begins and ends there. ↗
2 //
3 //
4 // /
5 //----- ↗
6 //Name Sai Chaitanya Kilambi
7 //Course CPSC 131 Data Structures, Fall, 2022
8 //Assignment No.6 question:1
9 //Due date 10/12/2022
10 // Purpose:
11 // This finds the runtime of a recursive function and also calculates the value when n=15 ↗
12 //----- ↗
13 // list of libraries
14 //
15 //importing the required libraries
16
17 #include <iostream>
18 #include <ctime>
19
20 using namespace std;
21
22
23 //given recursive function
24 long f(int n)
25 {
26     if(n == 1) return 2; //base case
27
28     else return 2 * f(n - 1); //recursive case
29 }
30
31 int main()
32 {
33     time_t start, end;
34     //save time before calling function
35     start = clock();
36     //call the function
37     std::cout << "The Value of f(15) is " << f(15) << std::endl;
38     //save time after executing function
39     end = clock();
40     std::cout << "Run-time = " << (end - start) / 1000 << std::endl; // calculating the runtime ↗
41     system("pause");
42     return 0;
43 }
44

```