





hex_to_binary1 >

 $\underline{\text{Main Page}} \rightarrow \underline{\text{Exercises}} \rightarrow \underline{\text{Homework 2}} \rightarrow \underline{\text{C}} \rightarrow \underline{\text{Solve an Exercise}}$



You are working on problem set: Homework 2 (Pause)

Language/Type: C bitwise operators bit manipulation
Author: Cynthia Lee (on 2016/11/03)

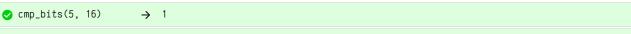
```
1 // cmp_bits by Brandon Kmiec. Submitted for CSC 152 September 15, 2024
2 // function used to compare the number of ON bits between two numbers
3 // Used https://en.wikipedia.org/wiki/Mask_(computing)#Querying_the_status_of_a_bit to learn how to pick out a single bit
5 int cmp_bits(int a, int b) {
6
       if(a == b)
           return Ø:
8
q
       int aCount = Ø;
1Ø
       int bCount = \emptyset;
11
       int bitMaskA = \emptyset;
12
       int bitMaskB = \emptyset;
13
       int tmp = 1;
14
15
       for(int i = \emptyset; i < 31; i++) {
16
           bitMaskA = a & tmp;
17
           bitMaskB = b & tmp;
18
19
           if(bitMaskA > Ø)
2Ø
                aCount++;
21
22
           if(bitMaskB > Ø)
23
                bCount++;
24
25
           tmp = tmp << 1;</pre>
26
       } // end for
27
28
       if(aCount > bCount)
29
           return 1;
3Ø
       else if(aCount < bCount)</pre>
31
           return -1;
32
       else
33
           return Ø:
34
35 } // end cmp_bits
```

Function: Write a C function as described, not a complete program.





You passed 11 of 11 tests.



cmp_bits(16, 5)



×

cmp_bits(6, 18)	\rightarrow	8
	\rightarrow	Ø
<pre> cmp_bits(Ø, Ø) </pre>	\rightarrow	Ø
	\rightarrow	Ø
cmp_bits(5, 1∅)	\rightarrow	Ø
	\rightarrow	8
<pre> cmp_bits(-1, -1) </pre>	\rightarrow	Ø
cmp_bits(-1, ∅)	\rightarrow	1
<pre> cmp_bits(∅, -1) </pre>	\rightarrow	-1

Testing began at 2024/09/14 19:12 (PDT) and ran for 413 ms.

