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

reverse_bits

Language/Type: C C bitwise operators bit manipulation
Author: Julie Zelenski (on 2018/02/03)

Write a function named **`reverse_bits`** that reverses the order of the bits in a 1-byte value of type `unsigned char`. A common programming question in job interviews is, "reverse the letters (or words) in a string." But for a systems programming interview, you might get the question, "reverse the bits in a byte." For example, the call of `reverse_bits(187)` should return 221. Your solution does not have to be in-place, and can use variables to hold temporary variables.

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```c
// reverse_bits by Brandon Kmiec. Submitted for CSC152 September 15, 2024
// function to reverse the order of bits in a 1-byte value of type unsigned char

unsigned char reverse_bits(unsigned char num) {
    unsigned char ret = 0;

    for(int i = 0; i < 8; i++) {
        if((num & (1 << i)) > 0) {
            ret = ret | (1 << (7 - i));
        } // end if
    } // end for

    return ret;
} // end reverse_bits
```

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

Submit

You passed 6 of 6 tests.

`reverse_bits(0)`	→	`0`
`reverse_bits(42)`	→	`84`
`reverse_bits(187)`	→	`221`
`reverse_bits(35)`	→	`196`
`reverse_bits(218)`	→	`91`
`reverse_bits(255)`	→	`255`

Testing began at 2024/09/14 19:16 (PDT) and ran for 411 ms.

Need help?

Stuck on an exercise? Contact your TA or instructor.

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