Given an integer, write an algorithm to convert it to hexadecimal. For negative integer, [two’s complement](https://en.wikipedia.org/wiki/Two%27s_complement) method is used.

**Note:**

1. All letters in hexadecimal (a-f) must be in lowercase.
2. The hexadecimal string must not contain extra leading 0s. If the number is zero, it is represented by a single zero character '0'; otherwise, the first character in the hexadecimal string will not be the zero character.
3. The given number is guaranteed to fit within the range of a 32-bit signed integer.
4. You **must not use *any* method provided by the library** which converts/formats the number to hex directly.

**Example 1:**

Input:

26

Output:

"1a"

**Example 2:**

Input:

-1

Output:

"ffffffff"