



Pratik Shenoy, first_language

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There is **NO** _builtin_popcount in c++, it's a **built in function of GCC**.

The function prototype is as follows:

int __builtin_popcount(unsigned int)

It returns the numbers of set bits in an integer (the number of ones in the binary representation of the integer).

For example,

cout<< __builtin_popcount (4);</pre>

The above code gives "1" as output.

Why to use it?

This function tries to use CPU specific instructions, which will always be orders of magnitude faster than any algorithm you manage to come up with.

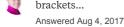


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As others have noted, there is currently no such standard function in C++, but it is available in GCC, Clang, and EDG. (And, as others also noted, it returns the number of 1-bits in the binary representation of the operand. Modern CPUs compute that in one cycle using a specialized instruction, and the intrinsic is mapped to that instruction.)

It is, however, among the bit operations that Jens Maurer has proposed for inclusion in the standard: P0553R0: Bit operations . My understanding is that at the 2017 Kona meeting, SG6 (the numerics working group) suggested it be put in the pipeline for C++20.

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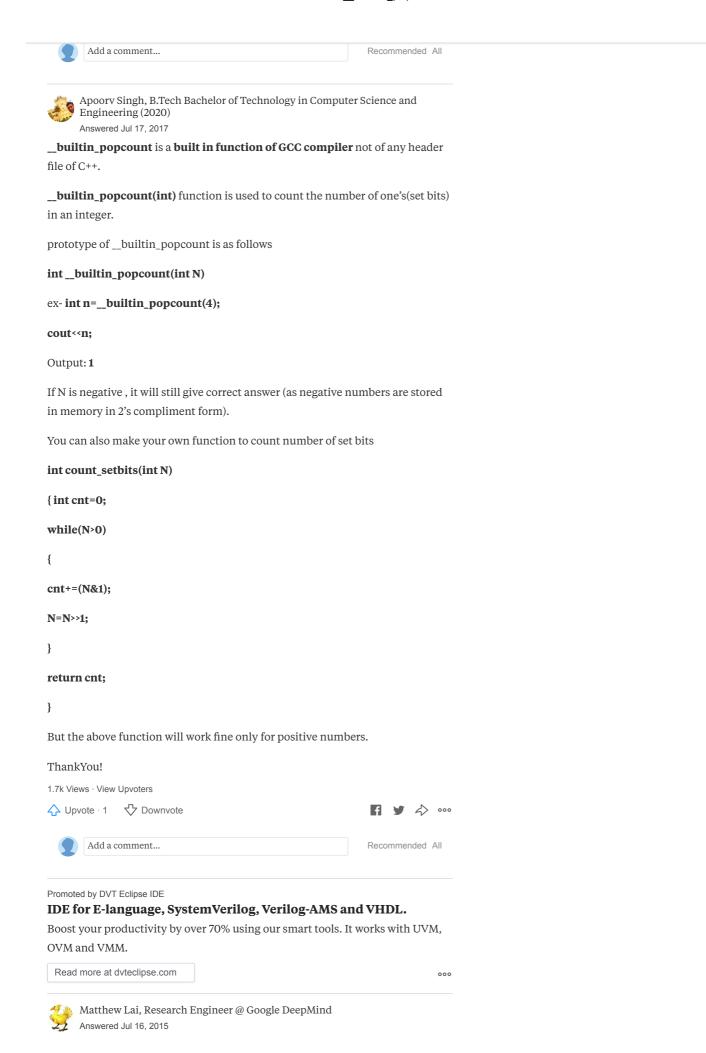
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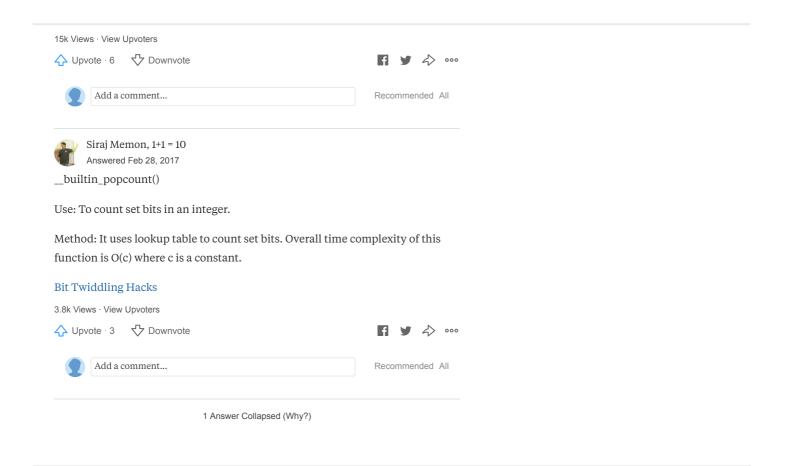
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