

Counting Bits

🕒 Recommended Time: 23 mins

🏆 Points: 50

🔄 7 test cases (2 samples)

Skills: Problem Solving (Basic) ⓘ

Coding  **EASY**

Loops

Binary Numbers

Problem Solving

 View

</> Try

 Insights

Given an integer, n , determine the following:

1. How many 1-bits are in its binary representation?
2. The number n 's binary representation has k significant bits indexed from 1 to k . What are the respective positions of each 1-bit, in ascending order?

For example, the diagram below depicts this information for the value $n = 37$:

Binary Representation of 37

Binary	1	0	0	1	0	1
Location	1	2	3	4	5	6

In the binary representation of 37, there are three 1-bits located at the respective 1st, 4th, and 6th positions.

Note: The leftmost 1 bit is always position 1. Preceding zeros are not considered in determining the position.