Given an integer num, return the number of steps to reduce it to zero. In one step, if the current number is even, you have to divide it by 2, otherwise, you have to subtract 1 from it.

Example 1:

Input: num = 14

Output: 6

Explanation:

Step 1) 14 is even; divide by 2 and obtain 7.

Step 2) 7 is odd; subtract 1 and obtain 6.

Step 3) 6 is even; divide by 2 and obtain 3.

Step 4) 3 is odd; subtract 1 and obtain 2.

Step 5) 2 is even; divide by 2 and obtain 1.

Step 6) 1 is odd; subtract 1 and obtain 0.

CODE:

import java.util.Scanner;

public class ReduceToZero {

public static int numberOfSteps(int num) {

int steps = 0;

while (num != 0) {

if (num % 2 == 0) {

num /= 2;

} else {

num -= 1;

}

steps++;

}

return steps;

}

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter the number: ");

int num = scanner.nextInt();

int steps = numberOfSteps(num);

System.out.println("Output: " + steps);

}

}

OUTPUT:

C:\javap>javac ReduceToZero.java

C:\javap>java ReduceToZero

Enter the number: 5

Output: 4

