On a broken calculator that has a number showing on its display, we can perform two operations:

* **Double**: Multiply the number on the display by 2, or;
* **Decrement**: Subtract 1 from the number on the display.

Initially, the calculator is displaying the number X.

Return the minimum number of operations needed to display the number Y.

**Example 1:**

**Input:** X = 2, Y = 3

**Output:** 2

**Explanation:** Use double operation and then decrement operation {2 -> 4 -> 3}.

**Example 2:**

**Input:** X = 5, Y = 8

**Output:** 2

**Explanation:** Use decrement and then double {5 -> 4 -> 8}.

**Example 3:**

**Input:** X = 3, Y = 10

**Output:** 3

**Explanation:**  Use double, decrement and double {3 -> 6 -> 5 -> 10}.

**Example 4:**

**Input:** X = 1024, Y = 1

**Output:** 1023

**Explanation:** Use decrement operations 1023 times.

**Note:**

1. 1 <= X <= 10^9
2. 1 <= Y <= 10^9