

## Day 33 (18/07/2025)

### 1. Check if Two Numbers Have Opposite Signs

Given two integers a and b, check whether they have opposite signs using bitwise operations.

**Input 1:**

a = 2, b = -3

**Output 1:**

True

**Input 2:**

a = -4, b = -5

**Output 2:**

False

### 2. Turn Off the Rightmost Set Bit

Given an integer n, turn off (clear) its rightmost set bit and return the new number.

**Input 1:**

n = 12

**Output 1:**

8

**Input 2:**

n = 10

**Output 2:**

8

### 3. Isolate the Rightmost Set Bit

Given an integer n, isolate and return only the rightmost set bit as a new number (all other bits should be 0).

**Input 1:**

n = 10

**Output 1:**

2

**Input 2:**

n = 12

**Output 2:**

4