

## 322. Coin Change

### Difficulty : Medium

<https://leetcode.com/problems/coin-change>

You are given an integer array `coins` representing coins of different denominations and an integer `amount` representing a total amount of money.

Return *the fewest number of coins that you need to make up that amount*. If that amount of money cannot be made up by any combination of the coins, return `-1`.

You may assume that you have an infinite number of each kind of coin.

#### Example 1:

**Input:** `coins = [1,2,5], amount = 11`  
**Output:** `3`  
**Explanation:** `11 = 5 + 5 + 1`

#### Example 2:

**Input:** `coins = [2], amount = 3`  
**Output:** `-1`

#### Example 3:

**Input:** `coins = [1], amount = 0`  
**Output:** `0`

#### Constraints:

- $1 \leq \text{coins.length} \leq 12$
- $1 \leq \text{coins}[i] \leq 2^{31} - 1$
- $0 \leq \text{amount} \leq 10^4$