

# Problem 3647: Maximum Weight in Two Bags

## Problem Information

**Difficulty:** Medium

**Acceptance Rate:** 59.60%

**Paid Only:** Yes

**Tags:** Array, Dynamic Programming

## Problem Description

You are given an integer array `weights` and two integers `w1` and `w2` representing the **maximum** capacities of two bags.

Each item may be placed in **at most** one bag such that:

\* Bag 1 holds **at most** `w1` total weight. \* Bag 2 holds **at most** `w2` total weight.

Return the **maximum** total weight that can be packed into the two bags.

**Example 1.**

**Input:** `weights = [1,4,3,2]`, `w1 = 5`, `w2 = 4`

**Output:** 9

**Explanation:**

\* Bag 1: Place `weights[2] = 3` and `weights[3] = 2` as `3 + 2 = 5 <= w1` \* Bag 2: Place `weights[1] = 4` as `4 <= w2` \* Total weight: `5 + 4 = 9`

**Example 2.**

**Input:** `weights = [3,6,4,8]`, `w1 = 9`, `w2 = 7`

**Output:** 15

**\*\*Explanation:\*\***

\* Bag 1: Place `weights[3] = 8` as `8 <= w1` \* Bag 2: Place `weights[0] = 3` and `weights[2] = 4` as `3 + 4 = 7 <= w2` \* Total weight: `8 + 7 = 15`

**\*\*Example 3:\*\***

**\*\*Input:\*\*** weights = [5,7], w1 = 2, w2 = 3

**\*\*Output:\*\*** 0

**\*\*Explanation:\*\***

No weight fits in either bag, thus the answer is 0.

**\*\*Constraints:\*\***

\* `1 <= weights.length <= 100` \* `1 <= weights[i] <= 100` \* `1 <= w1, w2 <= 300`

## Code Snippets

**C++:**

```
class Solution {
public:
    int maxWeight(vector<int>& weights, int w1, int w2) {

    }
};
```

**Java:**

```
class Solution {
    public int maxWeight(int[] weights, int w1, int w2) {

    }
}
```

**Python3:**

```
class Solution:
    def maxWeight(self, weights: List[int], w1: int, w2: int) -> int:
```