

203) Given a list of item weights and a maximum capacity for each container, determine the minimum number of containers required to load all items using a greedy approach. The greedy approach should prioritize loading items into the current container until it is full before moving to the next container.

Test Case 1:

Input:

n = 7

weights = [5, 10, 15, 20, 25, 30, 35]

max\_capacity = 50

Output: 4

Test Case 2:

Input:

n = 8

weights = [10, 20, 30, 40, 50, 60, 70, 80]

max\_capacity = 100

Output: 6

AIM: To write a python program to the greedy approach should prioritize loading items into the current container until it is full before moving to the next container.

PROGRAM:

```
def max_weight_greedy(weights, max_capacity):
```

```
    # Sort weights in descending order
```

```
    weights.sort(reverse=True)
```

```
    current_weight = 0
```

```
    for weight in weights:
```

```
        if current_weight + weight <= max_capacity:
```

```
            current_weight += weight
```

```
        else:
```

```
            break
```

```
    return current_weight
```

```
n1 = 5
```

```
weights1 = [10, 20, 30, 40, 50]
```

```
max_capacity1 = 60
```

```
print(max_weight_greedy(weights1, max_capacity1))
```

OUTPUT:

```
50
30
```

TIME COMPLEXITY:  $O(n \log n)$