

9. Given a list of item weights and the maximum capacity of a container, determine the maximum weight that can be loaded into the container using a greedy approach. The greedy approach should prioritize loading heavier items first until the container reaches its capacity.

Test Case 1:

Input:

n = 5

weights = [10, 20, 30, 40, 50]

max_capacity = 60

Output: 50

Program:

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

```
    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
```

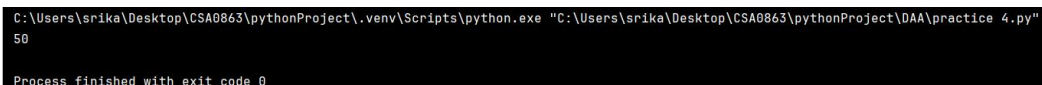
```
n = 5
```

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

```
max_capacity = 60
```

```
print(max_weight_greedy(weights, max_capacity))
```

Output:



```
C:\Users\srika\Desktop\CSA0863\pythonProject\.venv\Scripts\python.exe "C:\Users\srika\Desktop\CSA0863\pythonProject\DAA\practice 4.py"
50
Process finished with exit code 0
```

Time complexity:

$O(n \log n)$