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def knapsack_01(values, weights, capacity):
    n = len(values)
    dp = [[0 for _ in range(capacity + 1)] for _ in range(n + 1)]
    for i in range(1, n + 1):
        for w in range(1, capacity + 1):
            if weights[i - 1] <= w:
                dp[i][w] = max(dp[i - 1][w], values[i - 1] + dp[i - 1][w -
weights[i - 1]])
            else:
                dp[i][w] = dp[i - 1][w]
    return dp[n][capacity]

def main():
    n = int(input("Enter the number of items: "))
    values = []
    weights = []
    for i in range(n):
        value = int(input(f"Enter the value of item {i + 1}: "))
        weight = int(input(f"Enter the weight of item {i + 1}: "))
        values.append(value)
        weights.append(weight)
    capacity = int(input("Enter the capacity of the knapsack: "))
    max_value = knapsack_01(values, weights, capacity)
    print(f"Maximum value in the knapsack: {max_value}")
main()

```

output:

Enter the number of items: 3

Enter the value of item 1: 60

Enter the weight of item 1: 10

Enter the value of item 2: 100

Enter the weight of item 2: 20

Enter the value of item 3: 120

Enter the weight of item 3: 30

Enter the capacity of the knapsack: 50

Maximum value in the knapsack: 220