def knapsack(W, weights, values):

n = len(weights)

dp = [[0 for \_ in range(W + 1)] for \_ in range(n + 1)]

for i in range(1, n + 1):

for w in range(1, W + 1):

if weights[i - 1] <= w:

dp[i][w] = max(dp[i - 1][w], dp[i - 1][w - weights[i - 1]] + values[i - 1])

else:

dp[i][w] = dp[i - 1][w]

return dp[n][W]

if \_\_name\_\_ == "\_\_main\_\_":

W = int(input("Enter knapsack capacity: "))

n = int(input("Enter the number of items: "))

weights = []

values = []

print("Enter the weight and value of each item:")

for i in range(n):

weight, value = map(int, input().split())

weights.append(weight)

values.append(value)

result = knapsack(W, weights, values)

print("Maximum value:", result)

output:-

Enter knapsack capacity: 50

Enter the number of items: 3

Enter the weight and value of each item:

10 60

20 100

30 120

Maximum value: 220