

```

1 def knapsack_dp(W, wt, val, n):
2     """A Dynamic Programming based solution for 0-1 Knapsack problem
3     Returns the maximum value that can"""
4     K = [[0 for x in range(W + 1)] for x in range(n + 1)]
5
6     # Build table K[][] in bottom up manner
7     for i in range(n + 1):
8         for w in range(W + 1):
9             if i == 0 or w == 0:
10                 K[i][w] = 0
11             elif wt[i - 1] ≤ w:
12                 K[i][w] = max(val[i - 1] + K[i - 1][w - wt[i - 1]], K[i - 1][w])
13             else:
14                 K[i][w] = K[i - 1][w]
15     return K[n][W]
16
17
18 val = [60, 100, 120]
19 wt = [10, 20, 30]
20 W = 50
21 n = len(val)
22 print("Maximum possible profit =", knapsack_dp(W, wt, val, n))
23
24 """
25 OUTPUT:
26
27 Maximum possible profit = 220
28 """
29

```