

```

1 package knapsac;
2
3 /* A Naive recursive implementation
4 of 0-1 Knapsack problem */
5 public class Knapsac {
6
7     // A utility function that returns
8     // maximum of two integers
9     static int max(int a, int b)
10    {
11        return (a > b) ? a : b;
12    }
13
14    // Returns the maximum value that
15    // can be put in a knapsack of
16    // capacity W
17    static int knapSack(int W, int wt[], int val[],
18    int n)
19    {
20        // Base Case
21        if (n == 0 || W == 0)
22            return 0;
23
24        // If weight of the nth item is
25        // more than Knapsack capacity W,
26        // then this item cannot be included
27        // in the optimal solution
28        if (wt[n - 1] > W)
29            return knapSack(W, wt, val, n - 1);
30
31        // Return the maximum of two cases:
32        // (1) nth item included
33        // (2) not included
34        else
35            return max(val[n - 1]
36                + knapSack(W - wt[n - 1], wt,
37                    val, n - 1),
38                knapSack(W, wt, val, n - 1));
39    }
40
41    // Driver code
42    public static void main(String args[])
43    {
44        int val[] = new int[] { 60, 100, 120 };

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44         int wt[] = new int[] { 10, 20, 30 };
45         int W = 50;
46         int n = val.length;
47         System.out.println(knapSack(W, wt, val, n));
48     }
49 }
50
51
```