

89. KNAPSACK PROBLEM

PROGRAM:

```
def knapSack(W, wt, val, n):  
  
    if n == 0 or W == 0:  
        return 0  
  
    if (wt[n-1] > W):  
        return knapSack(W, wt, val, n-1)  
    else:  
        return max(  
            val[n-1] + knapSack(  
                W-wt[n-1], wt, val, n-1),  
            knapSack(W, wt, val, n-1))  
if __name__ == '__main__':  
    profit = [60, 100, 120]  
    weight = [10, 20, 30]  
    W = 50  
    n = len(profit)  
    print (knapSack(W, weight, profit, n))
```

OUTPUT:

220

=== Code Execution Successful ===

TIME COMPLEXITY: $O(n*W)$