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1  #Program to implement Fractional Knapsack
2  class objects:
3      def __init__(self,wt,val,ind):
4          self.weight=wt
5          self.profit=val
6          self.index=ind
7          self.cost=val/wt
8      def __lt__(self, other):
9          return self.cost < other.cost
10 class FractionalKnapsack:
11     @staticmethod
12     def getMaxprofit(wt,val,capacity):
13         ival=[]
14         for i in range(len(wt)):
15             ival.append(objects(wt[i],val[i],i))
16         ival.sort(reverse=True)
17         totalprofit=0
18         for i in ival:
19             currentweight=int(i.weight)
20             currentvalue=int(i.profit)
21             if((capacity-currentweight)>=0):
22                 capacity-=currentweight
23                 totalprofit+=currentvalue
24             else:
25                 fraction=capacity/currentweight
26                 totalprofit+=currentvalue*fraction
27                 capacity=int(capacity-(currentweight*fraction))
28             break
29         return totalprofit
30 def print_array(a):
31     for i in a:
32         print("%2d"%(i),end=" ")
33     print("\n")
34 import random
35 n=10
36 wt=[0]*(n)
37 val=[0]*(n)
38 capacity=30
39 for i in range(n):
```

PYTHON PROGRAM

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40  wt[i]=random.randint(3,10)
41  val[i]=random.randint(12,40)
42  capacity=50
43  maximumprofit=FractionalKnapsack.getMaxprofit(wt,val,capacity)
44  print("Object Weight:",end=" ")
45  print_array(wt)
46  print("Object Profit:",end=" ")
47  print_array(val)
48  print("Maximum Profit in Fractional Knapsack = %.2f"%(maximumprofit))
```