

```

1 #include<stdio.h>
2
3 int max(int a, int b) { return (a > b)? a : b; }
4
5 int main(){
6
7     int profits[] = {0,60,100,120};
8     int weights[] = {0,10,20,30};
9
10    /* IMPORTANT : Add 0 as first entry in both the Arrays and then proceed
as usual*/
11    /* Number of objects = actual objects(inserted apart from 0 entry)*/
12
13    int objects = 3;
14    int capacity_constraint = 50;
15
16    int Table[objects+1][capacity_constraint+1];
17
18    for(int i=0 ;i<= objects;i++) {
19
20        for(int w=0 ; w <= capacity_constraint ; w++){
21
22            /*3 cases exist
23            1) Fill row 0 and col 0 with Zero
24            2) When weight of Object is less than a column use Formula
25            3) Copy the entry from previous row
26            */
27
28            if(i==0 || w==0){
29                Table[i][w]=0;
30            }
31            else if(weights[i]<=w){
32                Table[i][w] = max(Table[i-1][w] , Table[i-1][w-weights[i]] +
profits[i]);
33            }
34
35            else {
36                /* Weight of an Object is Greater*/
37                Table[i][w] = Table[i-1][w];
38            }
39        }
40    }
41
42    for(int i=0 ; i<objects+1;i++){
43        for(int j=0;j<capacity_constraint+1 ; j++){
44
45
46            printf(" %d ",Table[i][j]);
47        }
48        printf("\n");
49    }
50
51
52    printf(" Max Profit : %d ",Table[objects+1][capacity_constraint+1]);
53
54
55
56 }

```