

```
#include<stdio.h>
#define MAX 50
int p[MAX],w[MAX],n; int
knapsack(int,int);
int max(int,int); void
main()
{
int m,i,optsoln;

printf("Enter no. of objects: ");
scanf("%d",&n); printf("\nEnter the
weights:\n"); for(i=1;i<=n;i++)
scanf("%d",&w[i]); printf("\nEnter
the profits:\n"); for(i=1;i<=n;i++)
scanf("%d",&p[i]);
printf("\nEnter the knapsack capacity:");
scanf("%d",&m); optsoln=knapsack(1,m);
printf("\nThe optimal solution is:%d",optsoln);
}
int knapsack(int i,int m)
{
if(i==n)
return (w[n]>m) ? 0 : p[n];
if(w[i]>m)
return knapsack(i+1,m);
return max(knapsack(i+1,m),knapsack(i+1,m-w[i])+p[i]);
}
int max(int a,int b)
{
if(a>b)
return a; else
return b;
}
```