**Code:**

**#include<stdio.h>**

**#include<conio.h>**

**void knapsack();**

**int max(int,int);**

**int i,j,n,m,p[10],w[10],v[10][10];**

**void main()**

**{**

**printf("\nenter the no. of items:\t");**

**scanf("%d",&n);**

**printf("\nenter the weight of the each item:\n");**

**for(i=1;i<=n;i++)**

**{**

**scanf("%d",&w[i]);**

**}**

**printf("\nenter the profit of each item:\n");**

**for(i=1;i<=n;i++)**

**{**

**scanf("%d",&p[i]);**

**}**

**printf("\nenter the knapsack's capacity:\t");**

**scanf("%d",&m);**

**knapsack();**

**getch();**

**}**

**void knapsack()**

**{**

**int x[10];**

**for(i=0;i<=n;i++)**

**{**

**for(j=0;j<=m;j++)**

**{**

**if(i==0||j==0)**

**{**

**v[i][j]=0;**

**}**

**else if(j-w[i]<0)**

**{**

**v[i][j]=v[i-1][j];**

**}**

**else**

**{**

**v[i][j]=max(v[i-1][j],v[i-1][j-w[i]]+p[i]);**

**}**

**}**

**}**

**printf("\nthe output is:\n");**

**for(i=0;i<=n;i++)**

**{**

**for(j=0;j<=m;j++)**

**{**

**printf("%d\t",v[i][j]);**

**}**

**printf("\n\n");**

**}**

**printf("\nthe optimal solution is %d",v[n][m]);**

**printf("\nthe solution vector is:\n");**

**for(i=n;i>=1;i--)**

**{**

**if(v[i][m]!=v[i-1][m])**

**{**

**x[i]=1;**

**m=m-w[i];**

**}**

**else**

**{**

**x[i]=0;**

**}**

**}**

**for(i=1;i<=n;i++)**

**{**

**printf("%d\t",x[i]);**

**}**

**}**

**int max(int x,int y)**

**{**

**if(x>y)**

**{**

**return x;**

**}**

**else**

**{**

**return y;**

**}**

**}**

**Output:**

