**PROG 6**

#include<stdio.h>

#define MAX 50

intp[MAX],w[MAX],n;

int knapsack(int,int);

intmax(int,int);

void main()

{

intm,i,optsoln;

printf("Enterno.ofobjects:");scanf("%d",&n);printf("\nEntertheweights:\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("\nTheoptimalsoluntionis:%d",optsoln);

}

intknapsack(inti,int m)

{

if(i==n)

return(w[n]>m)?0:p[n];

if(w[i]>m)

returnknapsack(i+1,m);

returnmax(knapsack(i+1,m),knapsack(i+1,m-w[i])+p[i]);

}

intmax(inta,intb)

{

if(a>b)returna; elsereturn b;

}