EXPT 6:

#include<stdio.h>

#include<stdlib.h>

#define MAX 20

int main(int argc,char \*argv[])

{

int weights[MAX],values[MAX],v[MAX][MAX],n,i,j,m,val1,val2,x[MAX];

printf("ENTER THE NUMBER OF ITEMS :");

scanf("%d",&n);

printf("ENTER WEIGHTS -\n");

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

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

printf("ENTER VALUES -\n");

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

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

printf("ENTER THE KNAPSACK CAPACITY :");

scanf("%d",&m);

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

{

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

{

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

v[i][j]=0;

else

v[i][j]=-1;

}

}

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

{

for(j=1;j<=m;j++)

{

if(j<weights[i])

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

else

{

val1=values[i]+v[i-1][j-weights[i]];

val2=v[i-1][j];

if(val1>val2)

v[i][j]=val1;

else

v[i][j]=val2;

}

}

}

printf("THE MATRIX IS.....\n");

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

{

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

{

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

}

printf("\n");

}

printf("MAXIMUM PROFIT OBTAINED IS : %d\n",v[n][m]);

i=n;

j=m;

while(i!=0 && j!=0)

{

if(v[i][j]!=v[i-1][j])

{

x[i]=1;

j=j-weights[i];

}

i=i-1;

}

printf("ITEM SELECTED ARE--\n");

printf("{");

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

{

if(x[i]==1)

printf("%d ",i);

}

printf("}\n");

system("PAUSE");

return 0;}