**PROGRAM 12-Implement 0/1 Knapsack problem using dynamic programming.**

//knapsack problem

#include <stdio.h>

int max(int a,int b)

{

if(a>b)

return a;

else

return b;

}

int main()

{

int p[5]={0,1,2,5,6};

int wt[5]={0,2,3,4,5};

int m=8,n=4;

int w;

int k[5][9];

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

{

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

{

if(i==0||w==0)

k[i][w]=0;

else if(wt[i]<=w)

k[i][w]=max(p[i]+k[i-1][w-wt[i]],k[i-1][w]);

else

k[i][w]=k[i-1][w];

}

}

printf("the maximum profit=%d",k[n][w-1]);

}

**OUTPUT:**

