#include<iostream>

#include<vector>

#include<algorithm>

using namespace std ;

int n ,M;

int T[101][101] ={0};

int w[101] ,v[101] ;

void print()

{

int i = n ;

int j = M ;

while (T[i][j] == T[i][j-1])

j--;

while(T[i][j]>0)

{

while(T[i][j] == T[i-1][j])

i--;

cout << "Chon do vat: " << i << " voi gia tri la : " << v[i] <<endl ;

j= j- w[i] ;

i-- ;

}

cout << "Tong gia tri la: " << T[n][M] << endl ;

}

int max(int a, int b )

{

return a>b ? a:b ;

}

void QHD()

{

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

for (int j = 1 ; j <=M ; j++)

{

if ( j < w[i] )

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

else

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

}

}

int main()

{

cout << "Nhap so luong do vat: " ;

cin >> n ;

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

{

cout << "Do vat thu: " << i <<" :\n Trong luong: " ;

cin >> w[i] ;

cout<< "Gia tri: " ;

cin >> v[i] ;

}

cout << "Nhap trong luong tui mang duoc: " ;

cin >> M ;

QHD();

print() ;

system ("pause");

return 0;

}