**Knapsack Problem**

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**Code:**

#include<stdio.h>

int max(int a, int b) { return (a > b)? a : b; }

int knapSack(int W, int wt[], int val[], int n)

{

if (n == 0 || W == 0)

return 0;

if (wt[n-1] > W)

return knapSack(W, wt, val, n-1);

else return max( val[n-1] + knapSack(W-wt[n-1], wt, val, n-1),

knapSack(W, wt, val, n-1)

);

}

int main()

{

int m;

printf("Enter the no of items:");

scanf("%d",&m);

int val[m], wt[m];

for (int i=0;i<m;i++){

printf("Enter the value:");

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

printf("Enter the weight:");

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

}

int W;

printf("Enter the max wt:");

scanf("%d",&W);

int n = sizeof(val)/sizeof(val[0]);

printf("%d", knapSack(W, wt, val, n));

return 0;

}

**Output:**

