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

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4-D

```
#include<stdio.h>
int max(int a, int b) { return (a > b)? a : b; }
int knapSack(int W, int wt[], int val[], int n)
{
  int i, w;
  int K[n+1][W+1];
  for (i = 0; i <= n; i++)
  {
     for (w = 0; w <= W; w++)
     {
        if (i==0 || w==0)
           K[i][w] = 0;
        else if (wt[i-1] <= w)
            K[i][w] = max(val[i-1] + K[i-1][w-wt[i-1]],  K[i-1][w]);
        else
            K[i][w] = K[i-1][w];
     }
  }
```

```
   return K[n][W];
}
int main()
{
    int i, n, val[20], wt[20], W;

    printf("Enter number of items:");
    scanf("%d", &n);

    printf("Enter value and weight of items:\n");
    for(i = 0;i < n; ++i){
     scanf("%d%d", &val[i], &wt[i]);
    }

    printf("Enter size of knapsack:");
    scanf("%d", &W);

    printf("%d", knapSack(W, wt, val, n));
    return 0;
}
```