Algorithm ZeroOneKnapsack(S, k, w)

if k=0 \/ w=0 then

return 0

else

e := S.elemAtRank(k-1)

bk := e.benefit()

wk := e.weight()

if wk > w then // item k does not fit in knapsack of size w

return ZeroOneKnapsack(S, k-1, w)

else

return max(ZeroOneKnapsack(S, k-1, w),

ZeroOneKnapsack(S, k-1, w-wk) + bk)