stage, state, decision variable, criterion of effectiveness

backward recursion

1. Shortest path problem  
   at each stage n,  
   state s (현재 노드 위치)  
   fn(s,x) = dsx+fn-1(x)  
   f\*n(s)= min dsx+f\*n-1(x) for all node x following node s
2. Continuous problem  
   stage: each variable  
   state: resource available for allocation (x1\*x2\*x3=27)  
   decision variable: values of each variable  
   criterion of effectiveness: minimize the sum of variables  
   f1(s1,x3)=x3 (초기)  
   f\*1(s1)=min x3 (f1(s1,x3)=x3) subject to x3=s1, x3>=0  
   🡺 f\*1f(s1)=x3  
   f2(s2,x2)=x2+f\*1(s2/x2)  
   f\*2(s2)=min x2+s2/x2 x2>=0  
   f3(27,x1) = x1 +f\*2(27/x1)  
   f\*3(27)= min f3(27,x1) s.t. x>=0  
   결국, f\*n(s)= min x4-n +f\*n-1(s/x4-n) s.t. x4-n>=0 단 f\*0f(s)=0
3. Knapsack  
   max   
   s.t.