

Example:

Period (i)	Demand (d <sub>i</sub> )	Production cost (c <sub>i</sub> )	Fixed cost (f <sub>i</sub> )	Holding cost (h <sub>i</sub> )
1	10	3	5	0.2
2	40	2	20	0.3
3	20	4	10	0.5
4	50	3	10	0.8

Notes

Summary of DP Computation:

Possible States (i)	Stage 5	Stage 4		Stage 3		Stage 2		Stage 1	
	f* <sub>5</sub> (i)	f* <sub>4</sub> (i)	x* <sub>4</sub>	f* <sub>3</sub> (i)	x* <sub>3</sub>	f* <sub>2</sub> (i)	x* <sub>2</sub>	f* <sub>1</sub> (i)	x* <sub>1</sub>
0	0					286	110		
10	0					266	100		
20	0					246	90		
30	0					226	80		
40	0								
50	0								
60	0								
70	0								
80	0								
90	0					100	0		
100	0					78	0		
110	0					46	0		

Hence, the optimal decision (quantity to produce in each period):

x<sub>1</sub> =

x<sub>2</sub> =

x<sub>3</sub> =

x<sub>4</sub> =

with the corresponding total cost =