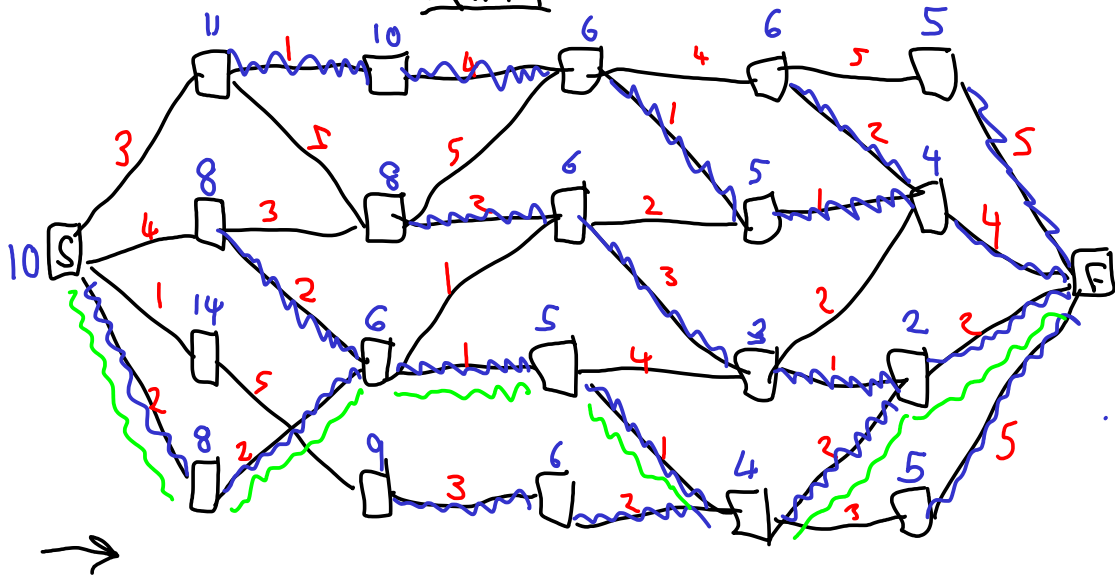
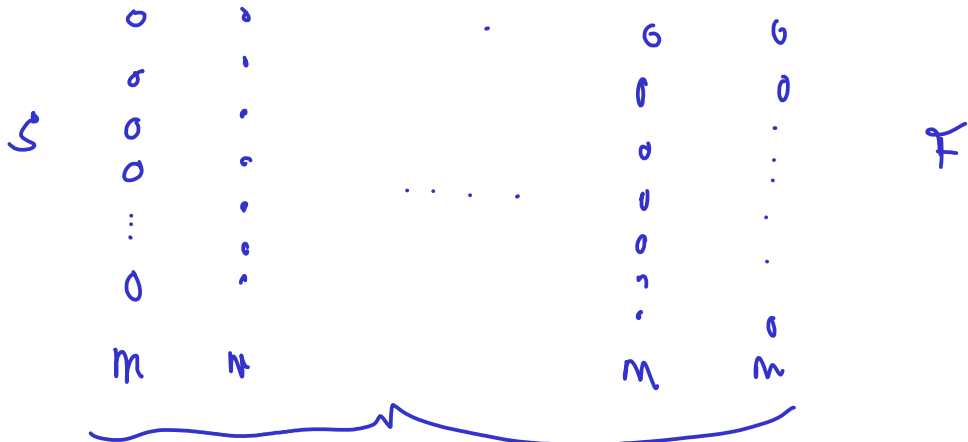


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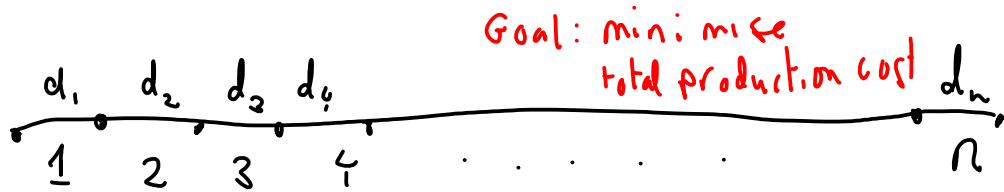


$\# \text{ paths} = m^n$

Running time: $O(mn \times m) = O(m^2 n)$.

Production Scheduling problem

Factory makes a single item e.g. washing machines.



d_j = demand in period j

$C_j(x)$ = cost of making x machines in period j

Can keep up to H in stock at end of period

View problem as making a sequence of

decisions: $x_1, x_2, \dots, x_n =$

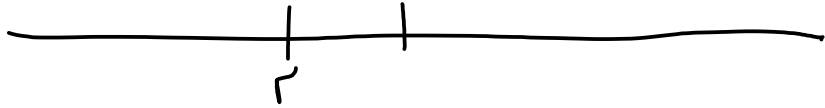
$x_j = \# \text{machines to make in}$
period j

Optimal decision depends on current
"State"

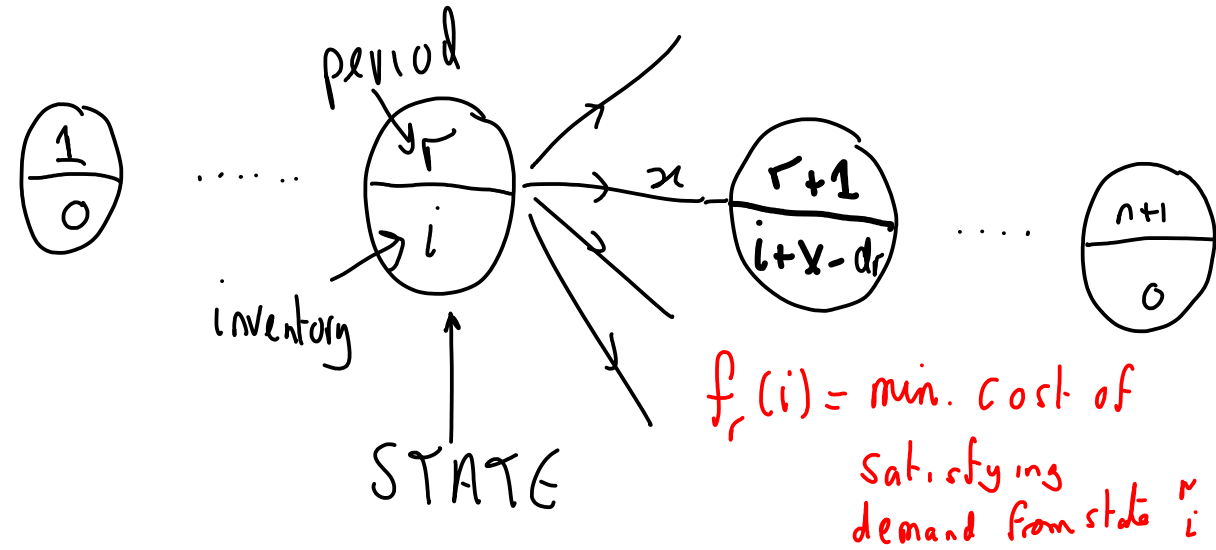


What does X_n depend on

Depends on current inventory



Choice of x_r depends on inventory at start of period r .



$$f_{n+1}(i) = 0$$

$$f_r(i) = \min_x \left(c_r(x) + f_{r+1}(i+x-d_r) \right)$$

$$\begin{aligned} x &\geq 0 \\ i+x &\geq d_r \\ i+x-d_r &\leq H \end{aligned}$$

