

* Branch & Bound Strategy

- Same as Backtracking (as it uses state space tree)
- brute force approach
- useful for solving minimization problem / optimization problem

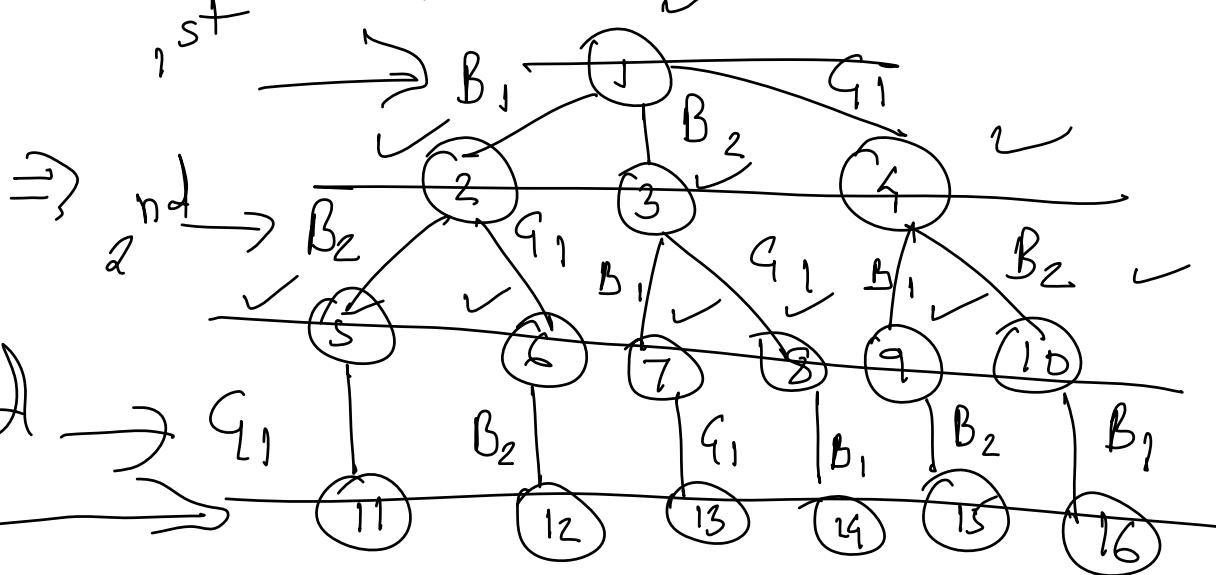
- B & B uses BFS Approach } state space tree

Ex: 3 students

B_1, B_2, G_1

* B & B
State space
tree

6 leaf
nodes



- 3 methods to solve Bx B Problems

① FIFO Bx B \rightarrow Queue

② LIFO Bx B \rightarrow Stack

✓ ✓ ③ Least Cost Bx B \rightarrow LC Bx B

* Job Sequencing with deadlines $\xrightarrow{\text{Greedy Approach}}$

Jobs = $\{ J_1, \check{J}_2, \check{J}_3, \check{J}_4 \}$

P = $\{ 10, 5, 8, 3 \}$

D = $\{ 1, 2, 1, 2 \}$

* Assume
soln \Rightarrow

$S_1 = \{ J_1, J_4 \} \rightarrow$ Variable size

$S_1 = \{ 1, 0, 0, 1 \}$

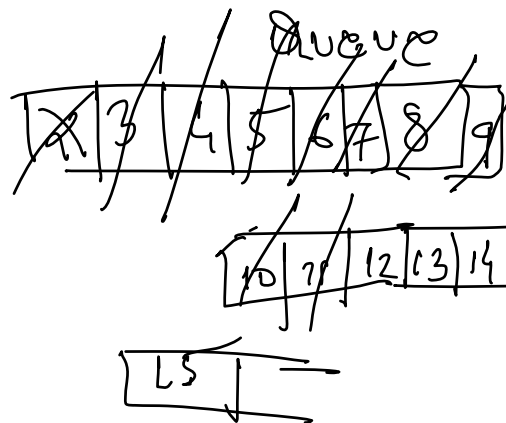
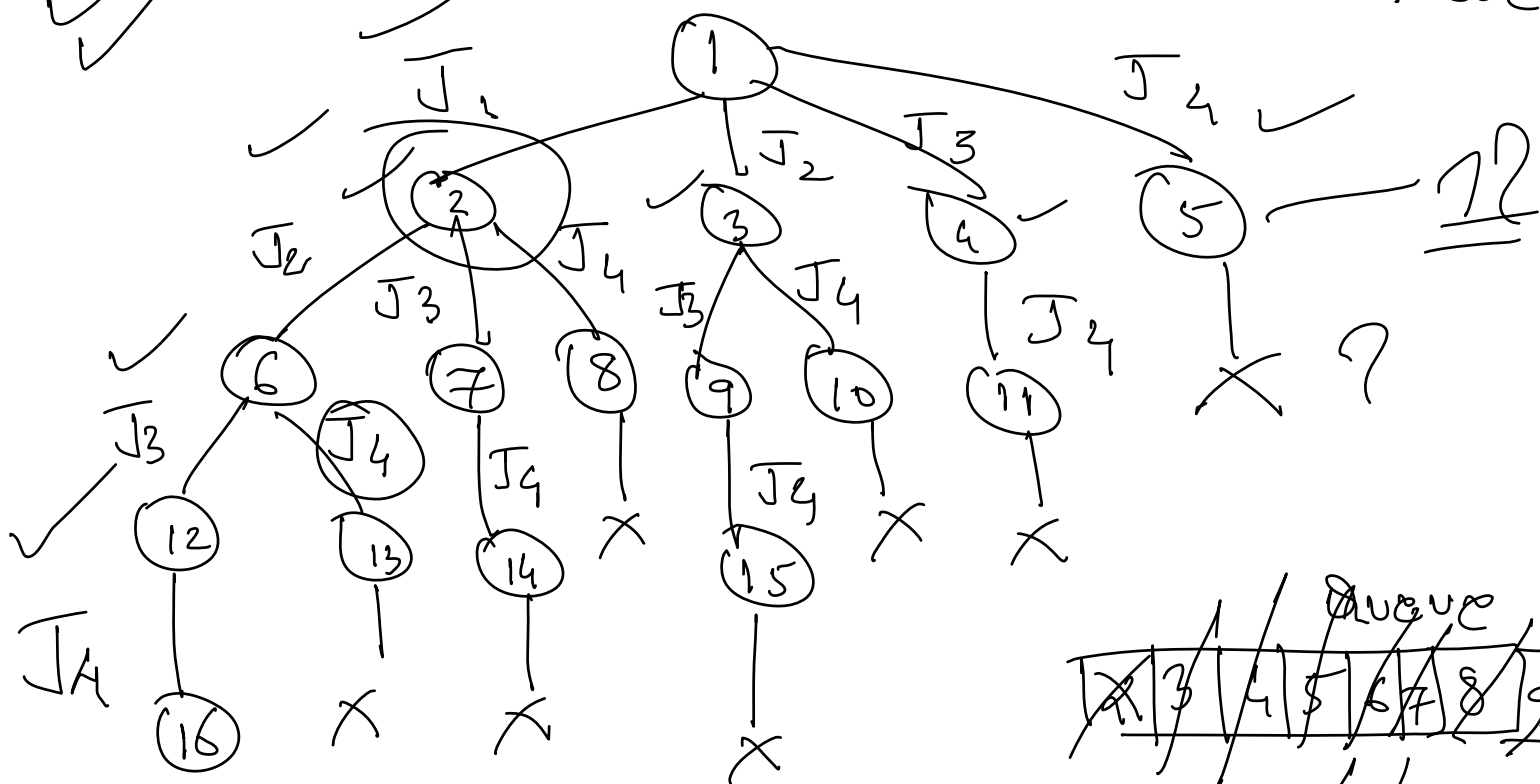
fixed size tuple

Front \rightarrow

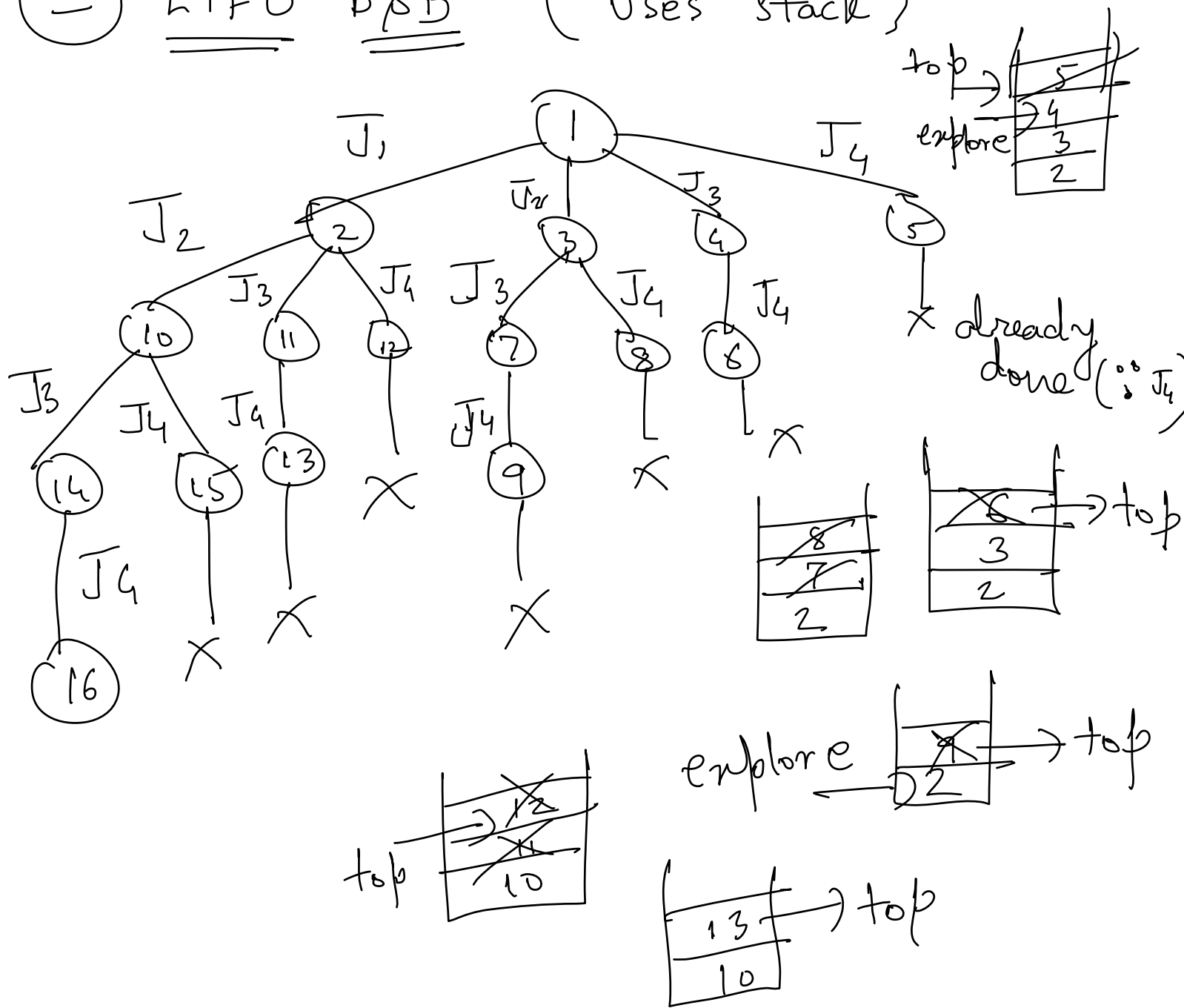
2	3	4	5
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 Rear
Queue

* FIFO B x B



II LIFO B&B (uses stack)



III LC B&B

- we compute the cost at each node
- we have assumed cost values here

