

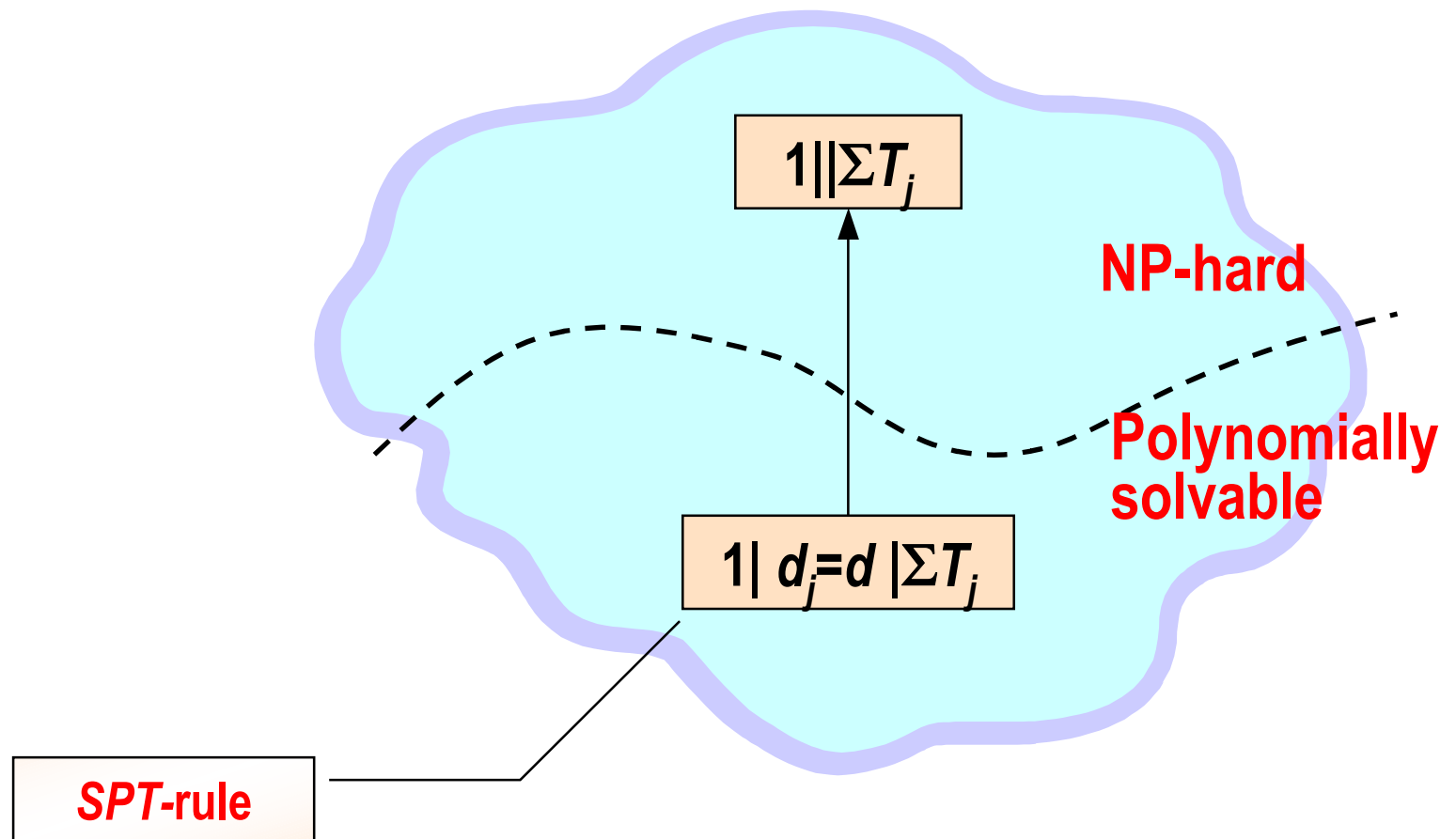
Previous lecture:

- Computational complexity
- Approximation algorithms for 'hard' problems

This lecture:

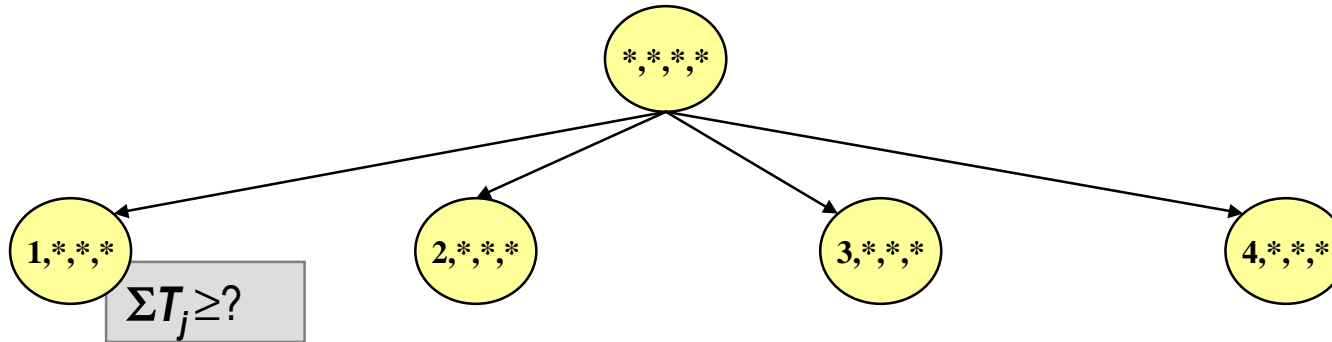
- Exact algorithms: branch and bound

Problem $1||\Sigma T_j$: Complexity



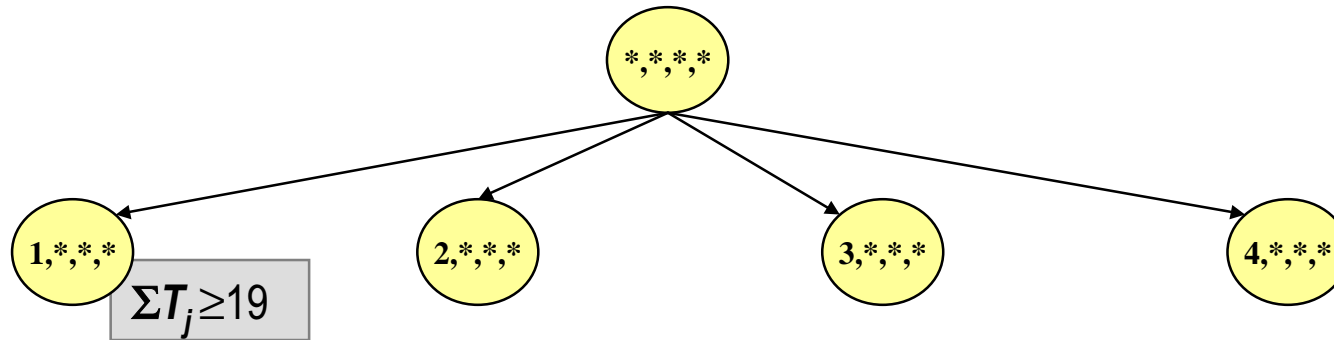
$1||\Sigma T_j$

Jobs	1	2	3	4
p_j	12	8	15	9
d_j	16	26	25	27



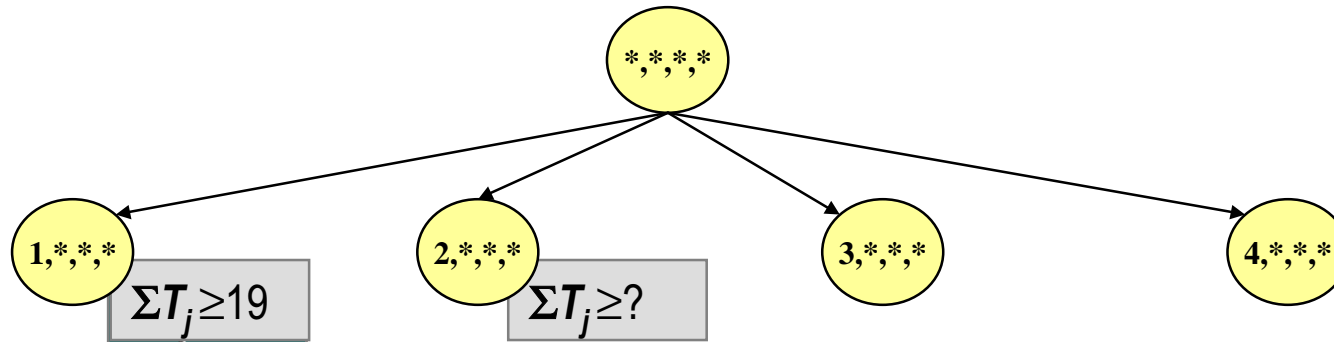
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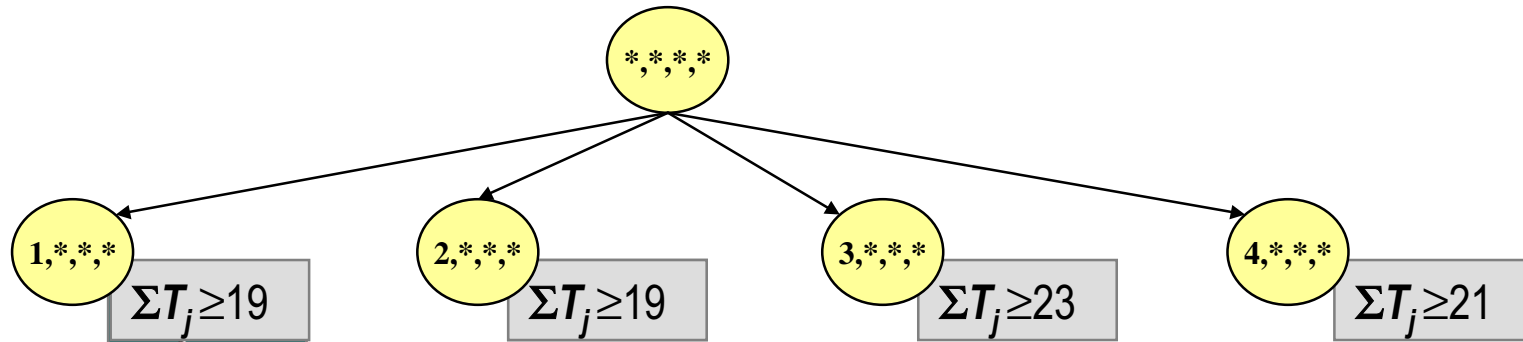
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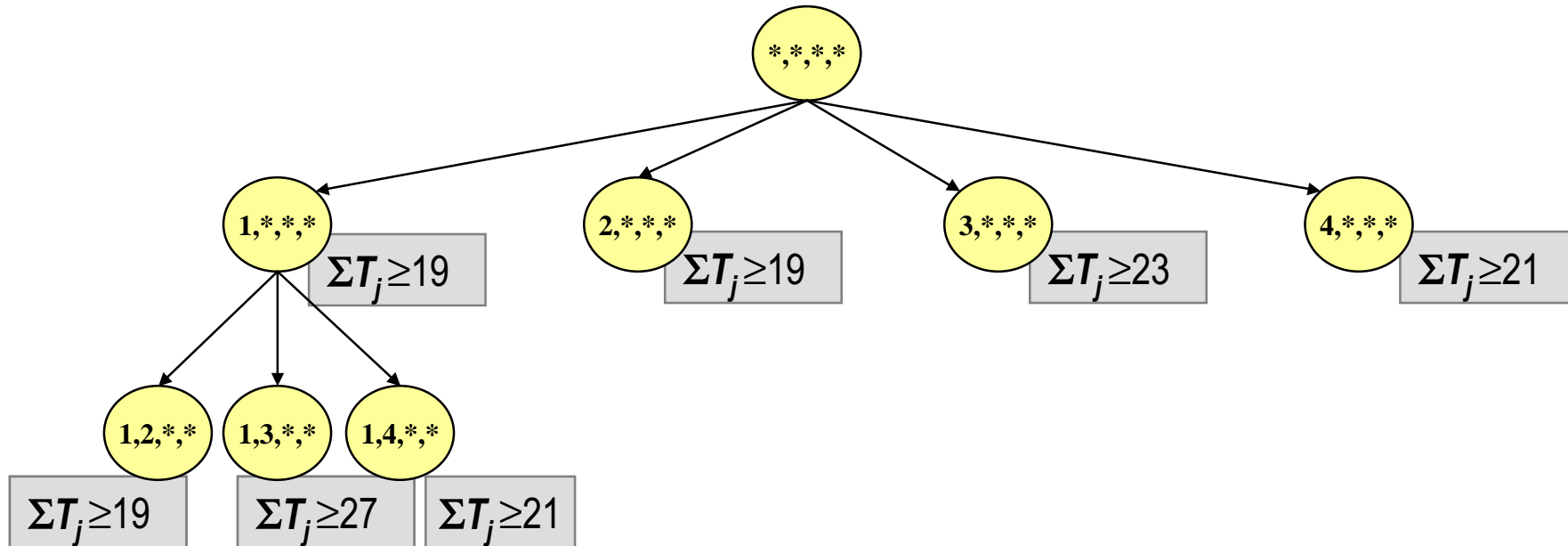
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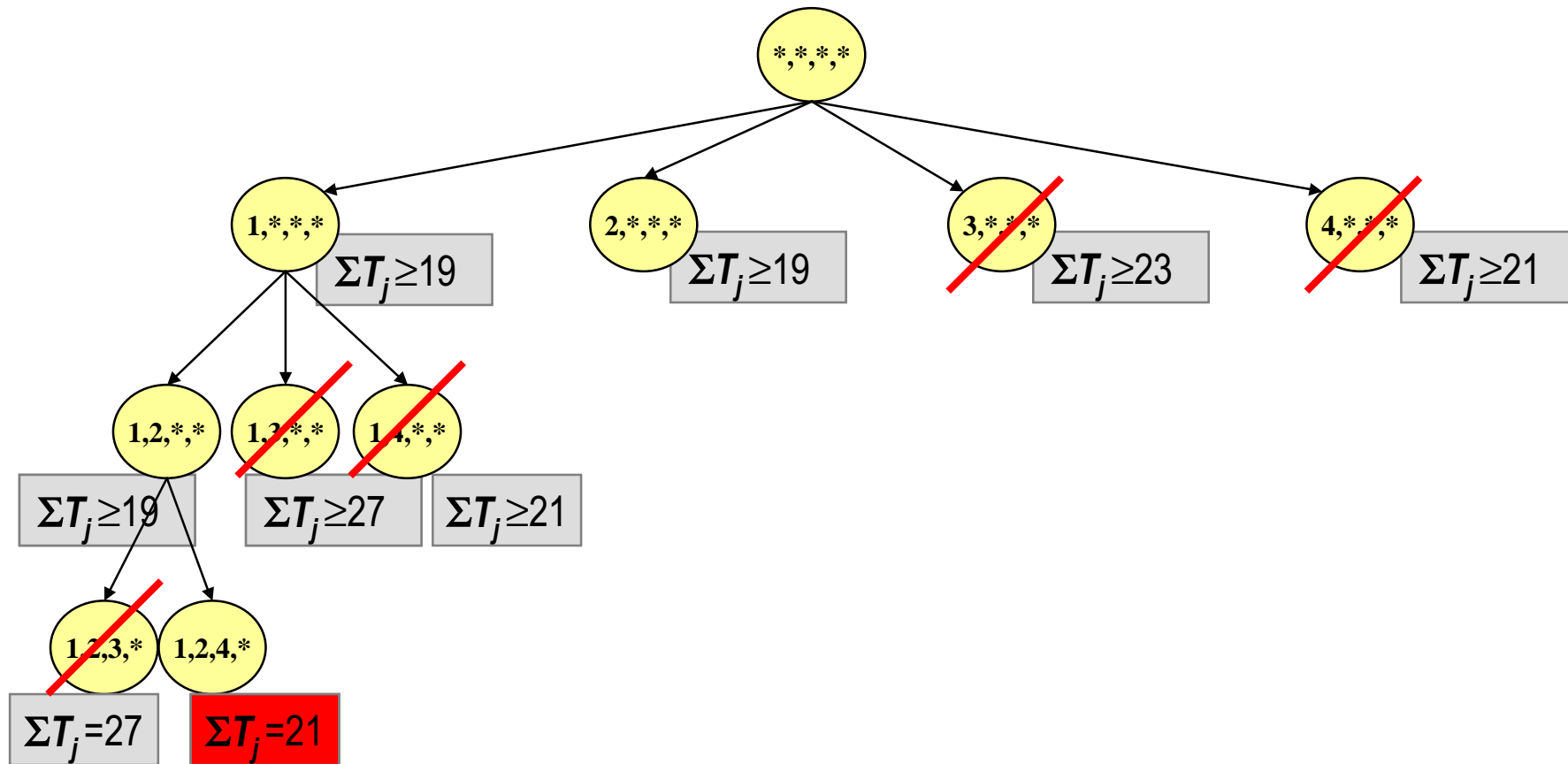
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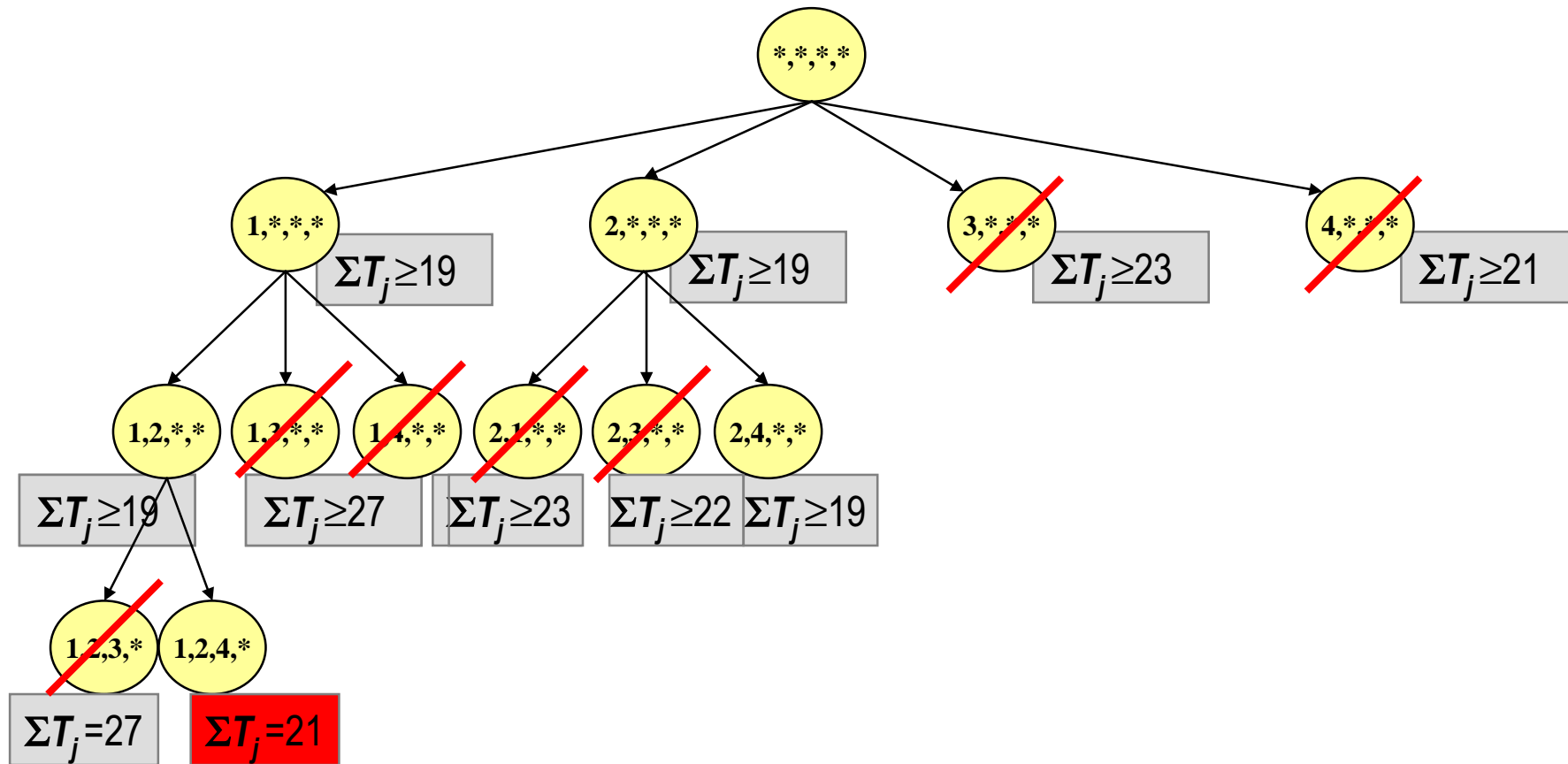
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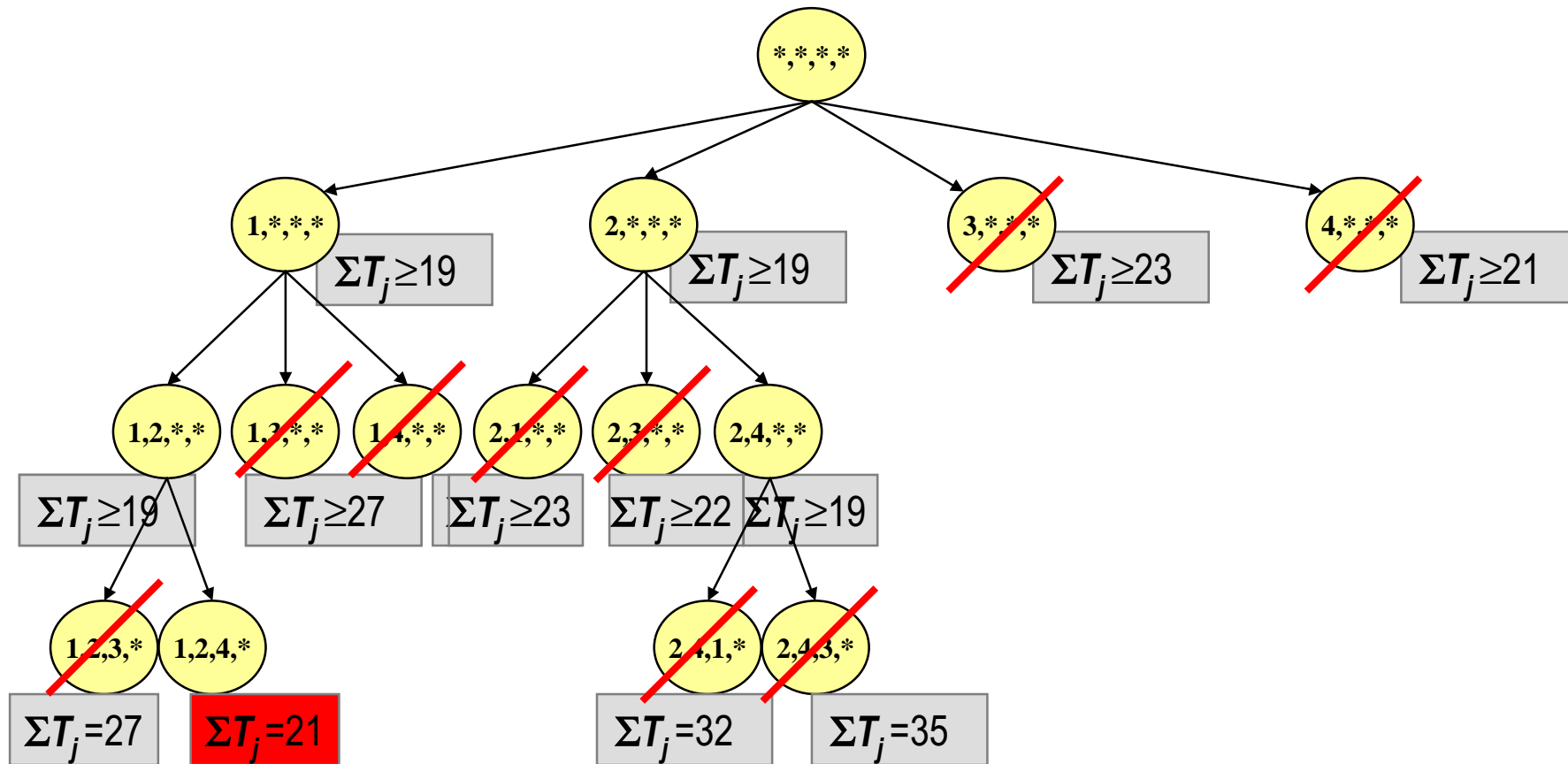
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Conclusions

Advantages of Branch & Bound algorithm:

- Finds an optimal solution (if the problem is of limited size and enumeration can be done in reasonable time).

Disadvantages of Branch & Bound algorithm:

- Extremely time-consuming: the number of nodes in a branching tree can be too large.