Session 6. Constrained Mining with Succinct Constraints

Succinctness: Pruning Both Data and Pattern Spaces

- Succinctness: if the constraint c can be enforced by directly manipulating the data

- Ex. 1: To find those patterns without item i

  - Remove i from DB and then mine (pattern space pruning)

- Ex. 2: To find those patterns containing item i

  - Mine only i-projected DB (data space pruning)

- Ex. 3: c_3: $min(S.Price) \leq v$ is succinct

  - Start with only items whose price $\leq v$ and remove transactions with high-price items only (pattern + data space pruning)

- Ex. 4: c_4: $sum(S.Price) \geq v$ is not succinct

  - It cannot be determined beforehand since sum of the price of itemset S keeps increasing