WARSAW UNIVERSITY OF TECHNOLOGY
DEVELOPMENT PROGRAMME

Finding Frequent Itemsets with Eclat, dEclat & Partition

HUMAN CAPITAL
HUMAN – BEST INVESTMENT!
EUROPEAN UNION EUROPEAN SOCIAL FUND
Project is co-financed by European Union within European Social Fund

WARSAW UNIVERSITY OF TECHNOLOGY
DEVELOPMENT PROGRAMME

Calculating *FI*s with Eclat

Id	*Transaction*
T1	{*abcde*}
T2	{*abcdef*}
T3	{*abcdehi*}
T4	{*abe*}
T5	{*bcdehi*}

- $t(X \cup Y) = t(X) \cap t(Y)$
- $sup(X \cup Y) = |t(X \cup Y)|$

WARSAW UNIVERSITY OF TECHNOLOGY
DEVELOPMENT PROGRAMME

Calculating *FI*s with dEclat

Id	*Transaction*
T1	{*abcde*}
T2	{*abcdef*}
T3	{*abcdehi*}
T4	{*abe*}
T5	{*bcdehi*}

- $d(X \cup Y) = d(Y) \setminus d(X)$
- $sup(X \cup Y) = sup(X) - |d(X \cup Y)|$

WARSAW UNIVERSITY OF TECHNOLOGY
DEVELOPMENT PROGRAMME

Calculating *FI*s with Partition

Id	*Transaction*
T1	{*a*}
T2	{*ab*}
T3	{*bc*}
T4	{*ac*}
T5	{*ac*}

- Assumptions:
  - *number of blocks k = 2.*
  - *minSup* = 3.
- Local support threshold :

$$minSup' = \left\lfloor \frac{minSup}{k} \right\rfloor = \left\lfloor \frac{3}{2} \right\rfloor = 1.$$

WARSAW UNIVERSITY OF TECHNOLOGY
DEVELOPMENT PROGRAMME

References

– Ashok Savasere, Edward Omiecinski, Shamkant B. Navathe: An Efficient Algorithm for Mining Association Rules in Large Databases. VLDB 1995: 432-444

– Mohammed Javeed Zaki, Karam Gouda: Fast vertical mining using diffsets. KDD 2003: 326-335