

**Problem 1.**

Find representative rules RR(3,75%) for the set of transactions: (B,C,D,F), (A,B,C,D,E,F), (C,E,H,I), (A,C,D,E,F,I), (A,D,E,F,I).

**Problem 2.**

For the system below, find rules describing C in terms of E,F,G. Follow Chase algorithm to find the value C(x5).

X	E	F	G	C
x1	e2	f2	g1	c2
x2	e1	f1	g1	c1
x3	e1	f2	g2	c1
x4	e1	f1	g2	c2
x5	e2	f2	g2	
x6	e2	f1	g1	c2

**Problem 3.**

Discretize attributes a and b in the Decision Table T(d) below. Use discernibility formulas (RSES).

X	a	b	d
x1	0.8	2	1
x2	0.8	1	0
x3	1.4	3	1
x4	1	3	0
x5	1.4	4	0
x6	1.6	3	1
x7	1.3	1	0

**Problem 4**

Assume that {a,c} are stable and {b,d} flexible attributes. Follow either DEAR algorithm or algorithm based on action reducts to find action rules re-classifying objects from class (d,2) to class (d,1). For both algorithms, threshold for minimum support is 1. If you chose to follow DEAR, take  $\frac{1}{2}$  as the threshold for minimum confidence,

	a	b	c	d
x1	1	1	1	1
x2	0	1	1	2
x3	1	0	2	1
x4	0	0	2	2
x5	1	0	1	2