Sam Ware

CS236 Final

(1) a) A is reflexive, not symmetric or anti-symmetric and not transitive

b) B is symmetric, but not reflexive, anti-symmetric, or transitive

c) C is anti-symmetric, but not reflexive, symmetric, or transitive

d) D is transitive, but not symmetric, anti-symmetric, or reflexive

(2) a) The pair needed is (4,4)

b) The pair needed is (2,3)

c) The pair needed is (2,4)

d) The pair needed is (2,2)

(3) a) (d, b)

b) (d, c)

c) (c, e)

d) (c, a)

(4)

mark	a	b	c	d	e
	~	-	0	-	-
a) c	9	-	0	5	1
b) e	9	-	0	3	1
c) d	9	4	0	3	1
d) b	8	4	0	3	1

(5) a) 13
b) 5
c) 10
d) 6

(6) a) Tree edges: (a,b), (b,d), (d,c), (d,e)
b) Forward edges: (a,c)
c) Backward edges: (d,a)
d) Cross edges: (e,c)

(7) a)

B	C
1	1
1	2

b)

A	B	C
2	1	1
2	1	2

c)

A	B	C	D
2	1	2	2

d)

B	C	D
1	1	2

(8) a) (2,1)
b) (2,1)
c) No new tuples
d) (1,1)