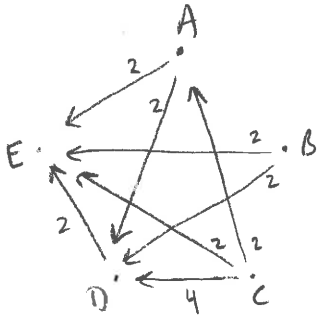
Chapter 5 homework solutions, day 1

3) Suppose a method is Smith fair. If $\exists$ a Condorcet candidate, X, Then $S = \{X\}$. Since the method is Smith fair $W \subset S$, but there is only one Smith candidate, so $W = \{X\}$. which means X is the sole winner, and the method is Condorcet fair.

6)

1	1	1	1
A	E	C	C
B	B	B	A
C	C	D	B
D	A	A	D
E	D	E	E

A:B 2:2
A:C 1:3
A:D 3:1
A:E 3:1
B:C 2:2
B:D 3:1
B:E 3:1
C:D 4:0
C:E 3:1
D:E 3:1



A B C D E
↑ · ↑ · ·

$S = D_C = \{C, B, A\}$