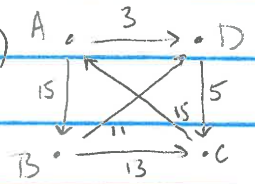
Chapter 6 Homework Solutions

1) 

A ▷ D (11 > 5)
A ▷ B (15 > 13)
C ▷ A (15 > 13)

$W = \{C\}$

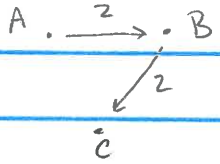
2) graph in book Seq winner A B C D E F $S = D_C = \{C, B, A\}$

B ▷ C (3 > 1)

$W = \{A, B\}$

3) 2 1 1

A C B
B A C
C B A



A ▷ B (2 > 0)
A ▷ C (2 > 0)

$W = \{A\}$

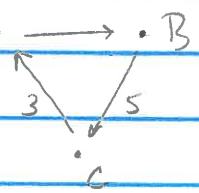
5) a) Any SC has an unmatched beatpath against any NSC since, in one-on-one comparison SC → NSC (and the is not possible), so SC has a beatpath against NSC. The NSC has no beatpath against any SC, since no NSC can beat a SC in one-on-one comparison.

b) No beatpath against a SC can pass through a NSC, again since NSC can beat only other NSC, but no NSC can beat a SC, so there would be no way for beatpath to get into Smith set once it is outside of it.

6) from p. 21: 2 4 3

C B A

A C B
B A C



B ▷ C (5 > 1)
B ▷ A (3 > 1) or C ▷ A (3 > 1)

so $W = \{B\}$

but C is a losing spoiler since if C drops out;

A ▷ B (1 > 0)

and $W = \{A\}$.