Examples to Motivate Proof of Muller Satterthwaite

Assume we're using a Pareto-efficient, monotonic, single-winner method that satisfies IIC. We'll show we can build any preference schedule we want, and force any candidate in it to be the winner, as long as they have at least one first place vote.

First Example, n=3, N = 5

1	1	1	1	1
A	A	A	A	A
C	C	C	C	C
B	B	B	B	B

(9.4)

1	1	1	1	1
A	A	A	A	A
B	C	C	C	C
C	B	B	B	B

(9.5)

1	1	1	1	1
B	A	A	A	A
A	C	C	C	C
C	B	B	B	B

(9.6)

1	1	1	1	1
B	B	A	A	A
A	A	B	C	C
C	C	C	B	B

(9.8)

1	1	1	1	1
B	B	B	A	A
A	A	A	C	C
C	C	C	B	B

(9.9)

1	1	1	1	1
B	B	B	C	C
C	C	A	A	A
A	A	C	B	B

(9.12)

1	1	1	1	1
B	B	A	C	C
C	C	B	A	A
A	A	C	B	B

(9.10,9.11)

1	1	1	1	1
C	C	A	C	C
B	B	C	A	A
A	A	B	B	B

(9.15)

1	1	1	1	1
C	C	A	C	C
B	B	C	B	B
A	A	B	A	A

(9.16)

1	1	1	1	1
A	C	C	C	C
C	B	B	B	B
B	A	A	A	A

1	1	1	1	1
A	B	B	C	C
B	C	C	B	B
C	A	A	A	A

1	1	1	1	1
A	B	B	C	C
B	A	A	A	A
C	C	C	B	B

1	2	2
A	B	C
B	A	A
C	C	B

Second Example, n=5, N = 6

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

(9.4)

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

(9.5)

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

(9.6)

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

(9.8)

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

(9.9)

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

(9.12)

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

(9.10,9.11)

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

(9.15)

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

(9.16)

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

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

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

2	3	1
C	D	A
A	E	C
B	B	D
D	A	E
E	C	B

Third Example, n=4, N = 7, 5th voter pivotal

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

(9.4)

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

(9.5)

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

(9.6)

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

(9.8)

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

(9.9)

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

(9.12)

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

(9.10,9.11)

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

(9.15)

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

(9.16)

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

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

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

1	3	2	1
B	D	C	A
A	B	A	B
C	A	B	C
D	C	D	D