Give examples of preference schedules where:

1. The plurality winner is not a majority winner.

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

A has the most first place votes, but only half (not more than half).

4	3	3
A	B	C
B	C	A
C	A	B

2. The majority winner is not a Borda count winner.

3	2
A	B
B	C
C	A

A: $3(3) + 2(1) = 11$

B: $3(2) + 2(3) = 12$

C: $3(1) + 2(2) = 7$

B wins Borda, but A is the majority winner.

3. The condorcet winner is not a plurality winner.

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

A is plurality winner

AvB BvC BvD
2   2   2
1   1   1
1   1   1
1   1   1

B is condorcet with only first place vote

4. The plurality with elimination winner is not a plurality winner.

~~2 1 1 1~~
~~A A~~

4	3	2
A	B	C
B	A	B
C	C	A

A is plurality winner

PwE: C is eliminated

4	3	2
A	B	B

B wins with 5

Find a winning stratgy for the indicated voters. Make sure to say (a) who won originally, (b) how the voter should change his vote (write down the new preference schedule), (c) who will win instead, and (d) why the voter would be happy about this result.

For example:

1. Plurality with elimination; Voter Eve honestly feels $C \succ B \succ D \succ A$, and an honest poll revealed the following preferences. Everyone but Eve will vote honestly.

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

(a) D is eliminated with 1 vote, then B is eliminated with 2 votes, then A wins with 5.

	3	2	1	1
	A	B	C	D
(b) Eve should just stay home!	B	A	B	C
	C	C	D	B
	D	D	A	A

(c) C and D are eliminted with 1 vote, then B wins with 4 votes.

(d) Eve ranked A, the old winner, last, but she ranked B, the new winner, as 2nd place. This is a big improvement.

2. Plurality with elimination; Voter Eve feels $B \succ C \succ D \succ A$ and an honest poll revealed the following preferences. Everyone but Eve will vote honestly.

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

(a) *(D is eliminated)* C is eliminated

2	2	1
A	B	A

then A wins 5

(b) Vote for C!

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

(D is eliminated, B is eliminated

2	1	1
A	C	C

then C wins with 3*)*

(c)

(d) C is their Second place choice, but A was their last