Is there a Condorcet winner? A vs B: A vs C: A vs D:

B vs C: B vs D: C vs D:

| | 6 | 5 | 1 |
|---|---|---|---|
| 1st | A | D | B |
| 2nd | C | C | C |
| 3rd | D | A | D |
| 4th | B | B | A |

Use your rules to decide the winners of the following elections:

| | 99 | 1 |
|---|---|---|
| 1st | A | B |
| 2nd | B | C |
| 3rd | C | A |

| | 40 | 35 | 25 |
|---|---|---|---|
| 1st | A | B | C |
| 2nd | B | A | A |
| 3rd | C | C | B |

| | 40 | 35 | 25 |
|---|---|---|---|
| 1st | A | B | C |
| 2nd | B | C | A |
| 3rd | C | A | B |

Find a candidate so that eliminating them changes the winner of the election:

| | 6 | 5 | 1 |
|---|---|---|---|
| 1st | A | D | B |
| 2nd | C | C | C |
| 3rd | D | A | D |
| 4th | B | B | A |

| | 3 | 2 | 1 |
|---|---|---|---|
| 1st | K | L | M |
| 2nd | J | J | L |
| 3rd | M | M | K |
| 4th | L | K | J |

Find a good strategy for the indicated voters.

If the true preferences are as given below, then can the voter in the fourth column ($D > B > A > C$) lie to get a better result?

| 2 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|
| A | A | C | D | D |
| B | C | B | B | B |
| C | D | A | A | C |
| D | B | D | C | A |

(a) Who wins originally?

(b) How should the fourth column's voter report their preferences?

(c) Who wins now?

(d) Is the fourth column's voter happier with this result?

If the true preferences are as given below, then can the voter in the third column ($B > A > C > D$) lie to get a better result?

| 1 | 1 | 1 | 1 |
|---|---|---|---|
| A | A | B | C |
| B | D | A | B |
| C | C | C | D |
| D | B | D | A |

(a) Who wins originally?

(b) How should the third column's voter report their preferences?

(c) Who wins now?

(d) Is the third column's voter happier with this result?