

Preference Aggregation by Voting: Algorithmics and Complexity

Präferenzaggregation durch Wählen: Algorithmik und Komplexität

Pingo

Wintersemester 2020/2021

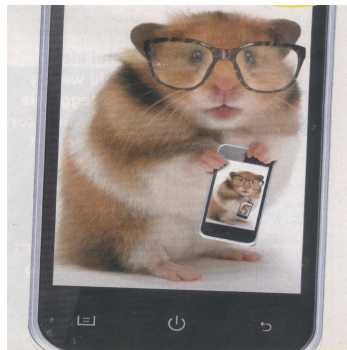
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Website

<https://pingo.coactum.de/>

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Question 1

Suppose the professor did not appear in the lecture room, although—according to his website—a lecture was scheduled. What has happened?

- A He didn't hear the alarm clock.
- B He destroyed the alarm clock like Jessica Jones.
- C He was hospitalized.
- D He forgot to have a look at his website.

Question 2

To compensate the students for their time and efforts,
The professor should ...

- A ... manipulate them.
- B ... control them.
- C ... bribe them.
- D ... apologize to them.

Question 3

Who wins the following Bucklin election?

<i>A</i>	<i>D</i>	<i>C</i>	<i>B</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>B</i>	<i>D</i>	<i>A</i>	<i>C</i>
<i>A</i>	<i>C</i>	<i>D</i>	<i>B</i>
<i>A</i>	<i>C</i>	<i>B</i>	<i>D</i>

A *A*

B *B*

C *C*

D *D*

Question 4

Who wins the following **Borda** election?

<i>A</i>	<i>D</i>	<i>C</i>	<i>B</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>B</i>	<i>D</i>	<i>A</i>	<i>C</i>
<i>A</i>	<i>C</i>	<i>D</i>	<i>B</i>
<i>A</i>	<i>C</i>	<i>B</i>	<i>D</i>

A *A*

B *B*

C *C*

D *D*

Question 5

Who wins the following **Copeland** election?

<i>A</i>	<i>D</i>	<i>C</i>	<i>B</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>C</i>	<i>D</i>	<i>B</i>	<i>A</i>
<i>B</i>	<i>D</i>	<i>A</i>	<i>C</i>
<i>A</i>	<i>C</i>	<i>D</i>	<i>B</i>
<i>A</i>	<i>C</i>	<i>B</i>	<i>D</i>

A *A*

B *B*

C *C*

D *D*

Question 6

Can a single voter manipulate the election to make A the unique Bucklin winner?

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

- A Yes, the first voter.
- B Yes, the second voter.
- C Yes, the third voter.
- D No, none of them.

Question 7

Can a single voter manipulate the election to make B a **Borda** winner?

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

- A Yes, the first voter.
- B Yes, the third voter.
- C Yes, the fifth voter.
- D No, none of them.

Question 8

Can a single voter manipulate the election to make C a unique Copeland winner?

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

- A Yes, the first voter.
- B Yes, the third voter.
- C Yes, the fifth voter.
- D No, none of them.

Question 9

Can a single voter manipulate the election to make C the Condorcet winner?

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

- A Yes, the first voter.
- B Yes, the third voter.
- C Yes, the fifth voter.
- D No, none of them.

Question 10

Can an election chair make A the unique Bucklin winner via control by partition of voters in model TE?

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

- A Yes, by the partition $\{\{\text{first voter}\}, \{\text{remaining voters}\}\}$.
- B Yes, by the partition $\{\{\text{first two voters}\}, \{\text{remaining voters}\}\}$.
- C Yes, by the partition $\{\{\text{first three voters}\}, \{\text{remaining voters}\}\}$.
- D No, impossible.

Question 11

What is the last name of the professor giving this course?

- A Rode
- B Rother
- C Rothe
- D Rumpelstilzchen