Preference Aggregation by Voting: Algorithmics and Complexity

Präferenzaggregation durch Wählen: Algorithmik und Komplexität

Pingo

Wintersemester 2020/2021

Dozent: Prof. Dr. J. Rothe

Website

https://pingo.coactum.de/

Access Number:
885317

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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?

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 *A*

B *B*

C *C*

D *D*

Question 4

Who wins the following Borda election?

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 *A*

B *B*

C *C*

D *D*

Question 5

Who wins the following Copeland election?

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 *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