Algorithmic Game Theory

Algorithmische Spieltheorie

Pingo

Wintersemester 2022/2023

Dozent: Prof. Dr. J. Rothe

Website

https://pingo.coactum.de/

Access Number:
885317

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Question 1

Which of the following instances are YES-instances of COMPARE-#SUBSETSUM-RR?

A $A = (a_1, a_2, a_3, a_4, a_5) = (1, 1, 4, 6, 2)$

B $B = (b_1, b_2, b_3, b_4) = (1, 1, 1, 1)$

C $C = (c_1, c_2, c_3) = (2, 4, 6)$

Question 2

Consider the weighted voting game $G = (3, 3, 2, 1; 6)$.
If we remove player 4, we obtain the new game $G_{\setminus\{4\}} = (3, 3, 2; 6)$.
In terms of the probabilistic Banzhaf index, will the power of the first player thus be ...

A ... increased?

B ... maintained?

C ... decreased?

Question 3

Consider the weighted voting game $G = (3, 3, 2, 1; 6)$.
If we remove player 4, we obtain the new game $G_{\setminus\{4\}} = (3, 3, 2; 6)$.
In terms of the Shapley-Shubik index, will the power of the first player thus be ...

A ... increased?

B ... maintained?

C ... decreased?

Question 4

Consider the weighted voting game $G = (3, 3, 2, 1; 6)$.
If we remove player 4, we obtain the new game $G_{\setminus\{4\}} = (3, 3, 2; 6)$.
In terms of the probabilistic Banzhaf index, will the power of the third player thus be ...

A ... increased?

B ... maintained?

C ... decreased?

Question 5

Consider the weighted voting game $G = (3, 3, 2, 1; 6)$.
If we remove player 4, we obtain the new game $G_{\setminus\{4\}} = (3, 3, 2; 6)$.
In terms of the Shapley-Shubik index, will the power of the third player thus be ...

A ... increased?

B ... maintained?

C ... decreased?