CS551K – Software Agents and Multi-Agent Systems 2022-2023

Assessment 2 : Auctions and Arguing

Auctions (10 marks)

Fill in the right column with the letters from the first column. Note that you can use multiple of the same letters, for example, (a) which indicates an English auction can be used to fill more than one question in the right column (e.g. questions 1 and 2), and you can also use more than one letter for each question, for example, question 1 can be filled with (a) and (b). Each question in the right column is worth 1 mark.

(a) English auction - (b) Dutch auction - (c) First-price sealed bid - (d) Vickrey auction - (e) Amsterdam auction.

1. Bidder has access to bids from other bidders during the auction
2. The bidder submitting the highest bid wins
3. Is a mixture of two other types of auctions
4. The winner of the auction pays what they bid
5. Single-dimensional, single-sided, sealed bid, single unit
6. Single-dimensional, single-sided, open cry, single unit
7. It is possible to have a tie
8. Second price auction
9. Has descending prices
10. The auction is guaranteed to find a winner.

Solution:

1. a,b,e
2. a,c,d
3. e
4. a,c
5. c,d
6. a,b
7. c,d
8. d
9. b
10. a,b,e

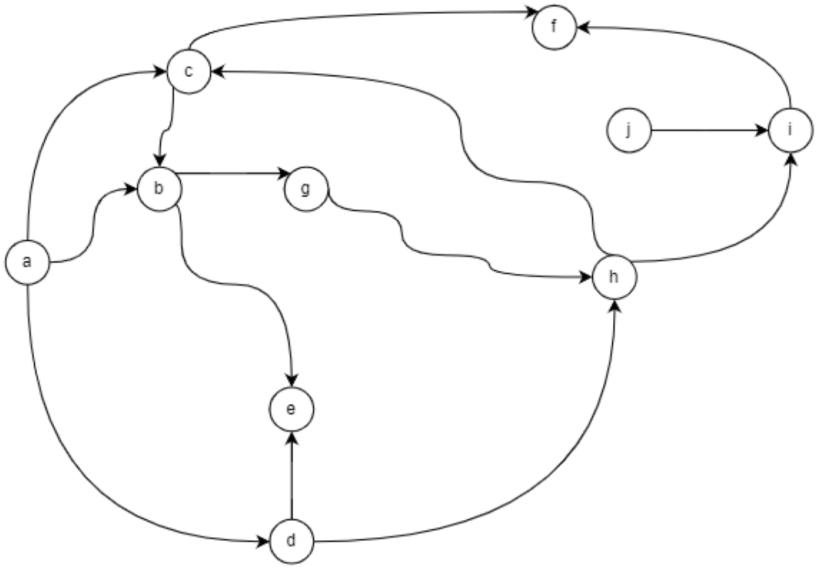

Figure 1: graph

Arguing (15 marks)

Consider the following graph:

(a) (5 marks) What is the argumentation framework (AF) for the argumentation graph above (you must follow the notation from our slides)?

(b) (10 marks) What is the grounded extension of the argumentation framework above (you must follow the notation from our slides)?

Solution:

a. The Argumentation Gramework of the given graph is :

({a, b, c, d, e, f, g, h, i, j}, {(a, b), (a, c), (a, d), (b, e), (b, g), (c, b), (c, f), (d, e), (d, h), (g, h), (h, i), (h, c), (i, f), (j, i)})

b. The grounded extension of the argumentation framework :

{a, e, g, j}.