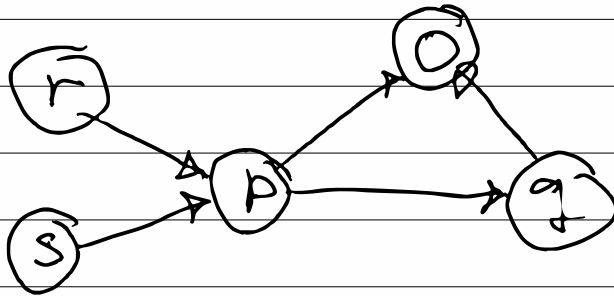


# Exercise L13 Arguing 2021

## Question 1

a) Give an example of a rationally justifiable position for this argument system, if one exist, else justify why none exist.



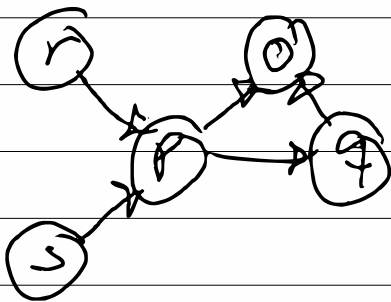
This is a Dung-style argumentation system:

- 1) Nodes are arguments
- 2) Arrows are relations between arguments, arrow from A to B means A attacks B

A rationally justifiable position is typically

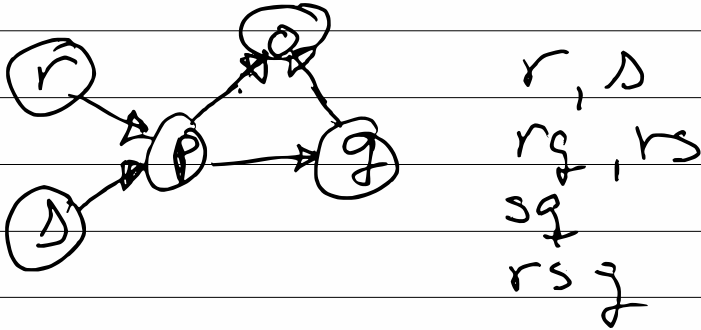
- 1) Conflict free
- 2) Mutually defensive
- 3) Admissible set
- 4) Preferred extensions
- 5) Grounded extensions

\* Conflict free: A position  $S$ 's conflict free if no member of  $S$  attacks any other member of  $S$

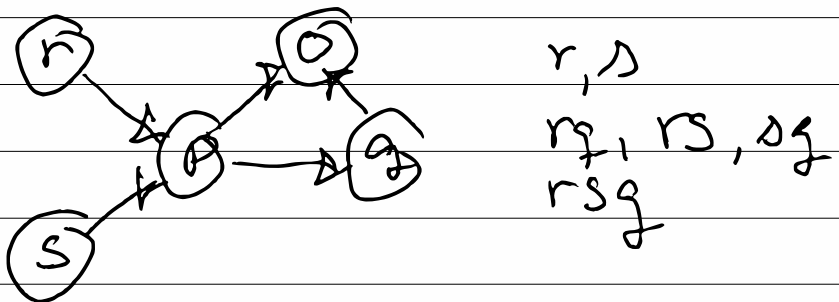


$r, s, p, q, o$   
 $rq, ro, rs$   
 $sq, so$   
 $roq, rso$

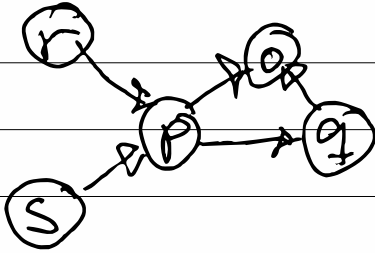
\* Mutually defensible: A position  $S$  is mutually defensible if every element of  $S$  that is attacked is defended by some element of  $S$



\* Admissible set: A position  $S$  that is conflict free and mutually defensible is an admissible set and internally consistent.



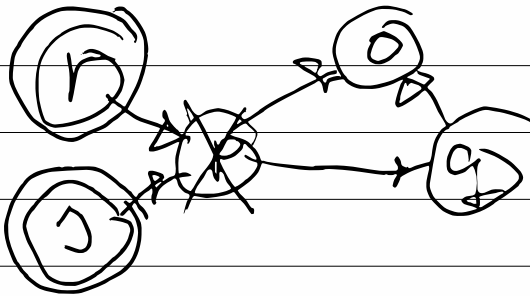
\* preferred extension: the set  $S$  is admissible but every superset of  $S$  is inadmissible



$x, x$   
 ~~$rs, rs, rs$~~   
 $rsq$

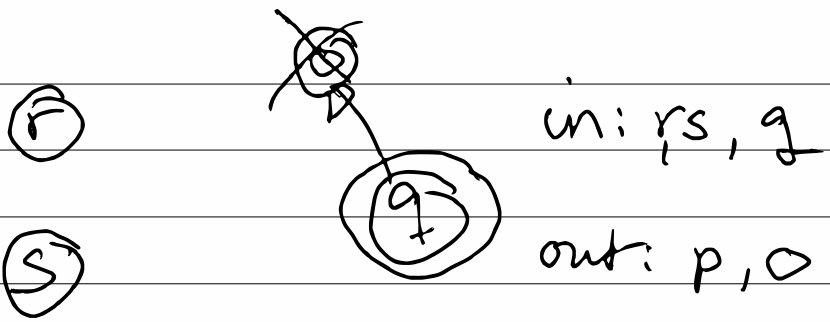
$rsq$  is the preferred extension

\* grounded extension:



in:  $r, s$

out:  $p$

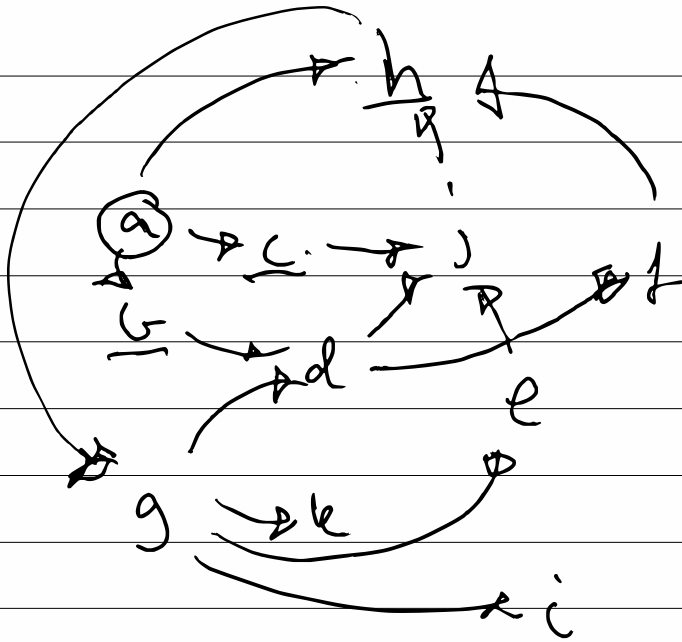


So

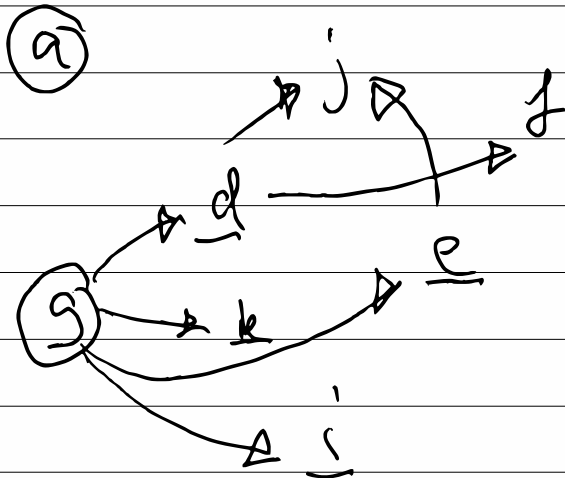


## Question 2

2) Explain the status of the arguments by calculating the grounded extensions.



in: a      out: b, c, h



in: a, g      out: b, c, h, d, k, e, i

g

j

f

g

in: a, g, j, f    out: b, c, h, d, e, k, i