

6. Exercise

Timo Bergerbusch 344408

Thomas Näveke 311392

Shu Xing 381176

02.01.2018

Exercise 6.1

Exercise 6.2 (Datalog)

6.2.1

a) `parent(X,Y) :- child(Y,X).`

b) `married(X,Y) :- child(Z,X), child(Z,Y).`

c) `sister(X,Y) :- child(X,Z), child(Y,Z), NOT male(X).`

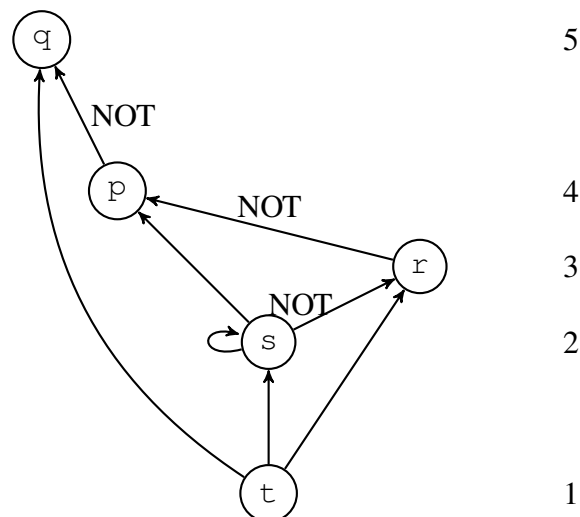
Comment: assuming halvesisters are also considered sisters.

d) `halfbrother(X,Y) :- parent(Z,X), parent(Z,Y), parent(N,X), NOT parent(N,Y), male(X).`

Comment: assuming every person has only two parents.

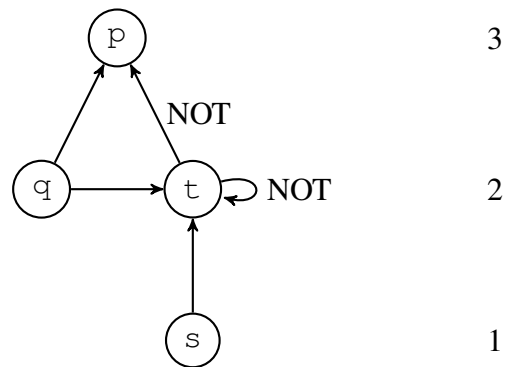
6.2.2

- Datalog program 1:



No two predicates in a layer depend negatively on each other, so the program is stratified.

- Datalog program 2:



Since the predicate t depends negatively on itself program 2 is not stratified