

```

table(1..2).
person(1..10).
nchairs(5).
ex1.
%ex2.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%input 1:
like(1,3):-ex1.
like(1,5):-ex1.
like(8,9):-ex1.
like(7,10):-ex1.

dislike(2,3):-ex1.
dislike(10,4):-ex1.
dislike(4,1):-ex1.
dislike(1,2):-ex1.

like(1,3):-ex1.
like(1,5):-ex1.
like(8,9):-ex1.
like(7,10):-ex1.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%input 2:
like(1,3):-ex2.
like(1,5):-ex2.
like(8,9):-ex2.
like(7,10):-ex2.
like(2,5):-ex2.
like(2,4):-ex2.

dislike(2,3):-ex2.
dislike(10,4):-ex2.
dislike(4,1):-ex2.
dislike(1,2):-ex2.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Guess: each person at exactly one table
1{at(P,T): table(T)}1 :- person(P).

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Check: each table has exactly N persons for N seats
:- table(T), nchairs(C), #count{P:at(P,T)}!=C.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Check: each person is at exactly one table
:- person(P), #count{T:at(P,T)}!=1.

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Check: persons liking each other must sit on same table
:- like(P1,P2), at(P1,T), not at(P2,T).

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%Check: persons disliking each other must NOT sit on same table
:- dislike(P1,P2), at(P1,T), at(P2,T).

#show at/2.

```