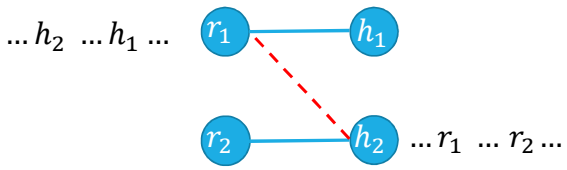
Gale-Shapley Algorithm

Initially all r in R and h in H are free
While there is a free r
    Let h be highest on r's list that r has not proposed to
    if h is free, then match (r, h)
    else //h is not free
    suppose (r', h) are matched
        if h prefers r to r′
            unmatch (r', h)
            match (r, h)

Claim 4: The matching has no blocking pairs.



How did r_1 end up matched to h_1?

Multiple Stable Matchings

Suppose we take our algorithm and let the horses do the "proposing" instead.

h_1 , h_2 r_1 h_1 r_2 , r_1

h_2 , h_1 r_2 h_2 r_1 , r_2

We got a different answer…
What does that mean?

True or False?

For the purposes of this slide, Alice always carries an umbrella, Bob never carries an umbrella, and it is sunny out right now.

If it is sunny right now, then Alice has her umbrella.

If it is raining right now, then Alice has her umbrella.

If Bob has his umbrella, then it is raining right now.

If it is raining right now, then Bob has his umbrella.