

1. Deanonymization

1.1 (a)

Sarah: You can link Sarah to the 5th entry of the first table, revealing her gender, age, city, favorite movie & series and her relationship status.

You can link the entry to Sarah, because Lisa, who is the only other person who reviewed Spider-Man: No Way Home gave a bad rating, which then doesn't make sense to be her favorite movie.

Anna: For Anna, only the 5th & last entries qualify based on her two reviews, but only the last entry really makes sense, because The Last of Us received a bad rating from her and she probably wouldn't rate her favorite series like this.

But, in this case, Lisa qualifies equally likely to the last data set, because she gave Avatar 2 an equally good review, which could also be her favorite movie. So you can't extract information about Anna from the first table.

1.2 (b)

Row 2: Sam, since Lewis ratings would be inconsistent with El Camino being his favorite movie, so only Sam remains

Row 3: Josh, gave Plack Panther 2 a good review, thus likely to be his favorite movie

Row 4: Tim, gave Rick and Morty a good review, thus likely to be his favorite series

Row 6: Lewis, since his ratings don't contradict with Minions 2 & Rick and Morty being his favorite movie/series

2. Employers and Employees

3. Separated NSA Entity-Relationship Model

1. You could possibly infer unregistered residents or illegal subletting
2. You could possibly enable profiling for targeted advertising or health-related inferences
3. You could possibly link both ER models by matching the forename, surname and dateOfBirth of customers to firstname, lastname and birthday of citizens. Given the connected ER model, you could possibly detect unregistered or hidden persons by matching excess food purchases with household size.