CompSci 316: Intro to Databases

Discussion-1 Quiz: Simple SQL

Description Consider a database “beers” containing information about bars, beers, and drinkers.

\[
\begin{align*}
\text{drinker} & (\text{name}, \text{address}) \\
\text{bar} & (\text{name}, \text{address}) \\
\text{beer} & (\text{name}, \text{brewer}) \\
frequents & (\text{drinker}, \text{bar}, \text{times\_a\_week}) \\
\text{likes} & (\text{drinker}, \text{beer}) \\
serves & (\text{bar}, \text{beer}, \text{price})
\end{align*}
\]

Write SQL queries to find out the answers to the questions (i.e., DO NOT use aggregates, GROUP BY or HAVING, built-in functions, or subqueries).

Questions

1. Who visits the bar “James Joyce Pub” more than once each week?
   a. Amy 
   b. Eve 
   c. Ben 
   d. Ben and Eve 
   e. Amy and Eve 
   f. Ben and Amy 
   g. Amy, Eve and Ben 

Solution:

\[
\text{SELECT} \ \text{drinker} \ \text{FROM} \ \text{frequents} \ \text{WHERE} \\
\quad \text{times\_a\_week} > 1 \ \text{AND} \\
\quad \text{bar} = 'James Joyce Pub';
\]

2. Which beer(s) is/are served by “James Joyce Pub” and liked by the people from Question 1?
   a. Dixie 
   b. Corona 
   c. Amstel 
   d. Erdinger 
   e. Erdinger and Corona 
   f. Dixie and Erdinger 
   g. Corona and Amstel
h. All 4 beers!

Universal solution:

```sql
SELECT DISTINCT(likes.beer) FROM frequents, likes, serves WHERE 
frequents.times_a_week > 1 AND 
frequents.bar = 'James Joyce Pub' AND 
frequents.drinker = likes.drinker AND 
frequents.bar=serves.bar AND 
likes.beer = serves.beer;
```

One by one solution:

```sql
SELECT DISTINCT(likes.beer) FROM likes, serves WHERE 
serves.bar = 'James Joyce Pub' AND 
likes.drinker = 'Amy' AND 
likes.beer = serves.beer;
```

```sql
SELECT DISTINCT(likes.beer) FROM likes, serves WHERE 
serves.bar = 'James Joyce Pub' AND 
likes.drinker = 'Eve' AND 
likes.beer = serves.beer;
```

3. Which combination of the bars has the lowest prices for the beers in Question 2?
   a. James Joyce Pub, Talk of the Town
   b. Satisfaction, The Edge
   c. Talk of the Town, Satisfaction
   d. James Joyce Pub, Down Under Pub
   e. Down Under Pub, The Edge

Solution:

```sql
SELECT DISTINCT(serves.*) FROM serves WHERE 
serves.beer = 'Amstel' 
ORDER BY price;
```

```sql
SELECT DISTINCT(serves.*) FROM serves WHERE 
serves.beer = 'Corona' 
ORDER BY price;
```