

## INF 551 – Fall 2017 (Afternoon section)

## Quiz 8: SQL, Constraints &amp; Views (10 points), 15 minutes

1. [6 points] Recall tables Beers(name, manf) and Sells(bar, beer, price). Write an SQL query to find beers not sold in any bars, using each of the following methods.
  - a. [2 points] Using “in” or “not in”.

```
select name
from Beers
where name not in
(select beer from Sells);
```
  - b. [2 points] Using outer join.

```
Select name
From Beers left outer join Sells on Beers.name = Sells.beer
Where bar is Null;
```
  - c. [2 points] Using “exists” or “not exists”.

```
Select name from Beers
Where not exists (
Select beer
From sells
Where beer=name
);
```
2. [4 points] Suppose “beer” (attribute) of Sells is a foreign key referring to “name” of Beers. When should the database check possible violations of the foreign key constraint? (List all the scenarios, i.e., insert/delete/update to which table).

```
Insert and update to Sells
Delete and update to Beers
```