

1) Drinkers who do not like any beer

Query:

```
select D.name
from drinkers D
      left join likes L
      on D.name = L.drinker
where L.beer is null
;
```

Results:

'Bob'
'Erik'
'Herb'
'Justin'
'Rebecca'
'Tom'

2) Bars which serve no beer(s) which Joe likes (you can use one of the outer joins if you want)

Query:

```
select B.name
from bars B
where not exists (
      select S.bar
      from sells S, likes L
      where S.bar = B.name
      and S.beer = L.beer
      and L.drinker = 'John'
)
;
```

Results:

'A.P. Stump\'s'
'Blue Angel'
'Eulipia'
'Hedley Club'
'Il Fornaio'
'The B-Hive'

3) Beers which are liked by at most one drinker who frequents Cabana

Comment: Beers which are liked by none of the drinkers who frequent Cabana should be included. This is the meaning of “at most”

If there's already one person, there should not be another person liking that beer

Query:

```
select B.name as beer
from likes L
      right outer join beers B
on B.name = L.beer
where
  (L.beer is null
  or
  (L.drinker in (
    select drinker
    from frequents F
    where bar = 'Cabana'
  )
  and not exists (
    select *
    from likes L2
    where L2.drinker != L.drinker
    and L2.beer = L.beer
    and L2.drinker in (
      select drinker
      from frequents F
      where bar = 'Cabana'
    )
  )
  )
)
order by beer
;
```

Results:

```
'Extra Gold'
'Hefeweizen'
'Hefeweizen Doppelbock'
'ICEHOUSE'
'Killian\'s'
'Michelob Amber Bock'
'Michelob Golden Draft'
'Michelob Golden Draft Light'
'Michelob ULTRA'
'Original Premium'
'Original Premium Lager'
```

'Original Premium Lager Dog'
'Sauza Diablo'
'Southpaw Light'
'Stolichnaya Citrona'
'Zima'
'Zima Citrus'

4) Drinkers who frequent no bars that Tom frequents

Query:

```
select distinct drinker
from frequents
where bar not in (
    select bar
    from frequents
    where drinker = 'Tom'
)
order by drinker
;
```

Results:

'Bob'
'Herb'
'Joe'
'John'
'Justin'
'Mike'
'Rebecca'
'Vince'

5) Bars which serve all beers that Cabana serves and possibly more

Query:

```
select bar
from sells
where beer in (
    select beer
    from sells
    where bar = 'Cabana'
)
order by bar
;
```

Results:

'Britannia Arms'
'Cabana'
'Caravan'
'Club 175'
'Coconut Willie\'s Cocktail Lounge'
'Gecko Grill'
'Giza Hookah Lounge'
'Seven Bamboo'
'The Blank Club'
'The Shark and Rose'

6) Pairs of drinkers who frequent the same bar (and possibly other bars)

Comment: Order pairs so you do not return <Bob, Ann>, <Ann, Bob>

Query:

```
select distinct F1.drinker, F2.drinker
  from frequents F1, frequents F2
 where F1.bar = F2.bar
    and F1.drinker < F2.drinker
;
```

Results:

'Bob','Erik'
'Bob','Herb'
'Bob','Jesse'
'Bob','Joe'
'Bob','John'
'Bob','Justin'
'Bob','Mike'
'Bob','Rebecca'
'Bob','Tom'
'Bob','Vince'
'Erik','Herb'
'Erik','Jesse'
'Erik','Joe'
'Erik','John'
'Erik','Justin'
'Erik','Mike'
'Erik','Rebecca'
'Erik','Tom'
'Erik','Vince'
'Herb','Jesse'

'Herb','Joe'
'Herb','John'
'Herb','Justin'
'Herb','Mike'
'Herb','Rebecca'
'Herb','Tom'
'Herb','Vince'
'Jesse','Joe'
'Jesse','John'
'Jesse','Justin'
'Jesse','Mike'
'Jesse','Rebecca'
'Jesse','Tom'
'Jesse','Vince'
'Joe','John'
'Joe','Justin'
'Joe','Mike'
'Joe','Rebecca'
'Joe','Tom'
'Joe','Vince'
'John','Justin'
'John','Mike'
'John','Rebecca'
'John','Tom'
'John','Vince'
'Justin','Mike'
'Justin','Rebecca'
'Justin','Tom'
'Justin','Vince'
'Mike','Rebecca'
'Mike','Tom'
'Mike','Vince'
'Rebecca','Tom'
'Rebecca','Vince'
'Tom','Vince'