COMP 330 Assignment 1

Question 1

```
SELECT DISTINCT a.person
FROM SIGHTINGS a
WHERE a.location = 'Alaska Flat';
```

Donna

Helen

Jennifer

John

Maria

Michael

Robert

Sandra

Question 2

```
SELECT DISTINCT a.person
FROM SIGHTINGS a
WHERE a.location = 'Moreland Mill' and EXISTS (
 SELECT a2.location
 FROM SIGHTINGS a2
 WHERE a2.location = 'Steve Spring' and a2.person = a.person
 and a2.name = a.name);
```

Jennifer

Question 3

```
SELECT DISTINCT  a.genus + ' ' + a.species
FROM FLOWERS a JOIN SIGHTINGS s ON a.comname = s.name
```

```
WHERE (s.person = 'Michael' or s.person = 'Robert') and EXISTS(
 SELECT f.elev
 FROM FEATURES f
 WHERE f.location = s.location and f.elev > 8250
);
```

Chaenactis douglasii
Fremontodendron californicum
Lilium pardalinum
Polemonium californicum
Streptanthus diversifolius
Triteleia laxa
Viola quercetorum
Viola sheltonii
Zigadenus venenosus

Question 4

```
SELECT DISTINCT f.map
FROM sightings a JOIN features f on a.location = f.location
WHERE a.name = 'Alpine penstemon' and DATENAME(m, a.sighted) =
'August';
```

```
Claraville
Walker Pass
```

Question 5

```
REATE VIEW genus_count AS
SELECT f.genus, COUNT(f.species) AS NUM_SPECIES
FROM flowers f
GROUP BY f.genus;

SELECT DISTINCT f.genus
FROM genus_count f
WHERE f.NUM_SPECIES > 1;
```

```
Gilia

Mimulus

Penstemon

Viola
```

Question 6

```
CREATE VIEW sighted_count AS
SELECT s.name, COUNT(s.location) AS NUM_SIGHTED
FROM sightings s
GROUP BY s.name;

SELECT a.name
FROM sighted_count a
WHERE a.NUM_SIGHTED = (SELECT MAX (b.NUM_SIGHTED) FROM sighted_count
b);
```

California flannelbush

Question 7

```
SELECT DISTINCT s.person
FROM sightings s
WHERE NOT EXISTS(
 SELECT s2.person
 FROM sightings s2
 WHERE s2.person = s.person and EXISTS(
   SELECT f.class
   FROM features f
   WHERE f.location = s2.location and f.class = 'Tower'
 )
);
```

Brad

Donna

Helen

James

Jennifer

John

Pete

Robert

Sandra

Tim

Question 8

```
SELECT f.class, (
 SELECT COUNT(s.name)
 FROM sightings s
 WHERE EXISTS(
   SELECT f2.location
   FROM features f2
   WHERE f2.location = s.location and f2.class = f.class
 )
)
FROM features f
GROUP BY f.class;
```

```
Flat 40
Gap  20
Locale    103
Mine 50
Populated Place     6
Range     69
Ridge     5
Spring    17
Summit    114
Tower     2
```

Question 9

```
CREATE VIEW sight_names AS
SELECT DISTINCT s.name
FROM sightings s
GROUP BY s.name;

SELECT datename(m, s.sighted) AS month_name, (
```

```
 SELECT COUNT(s2.name)/ CAST((SELECT COUNT(sight_names.name) from
sight_names) as FLOAT )
 FROM sight_names s2
 WHERE EXISTS(
   SELECT s3.name
   FROM sightings s3
   WHERE s3.name = s2.name and datename(m, s.sighted) = datename(m,
s3.sighted)
 )
) as count_month
FROM sightings s
GROUP BY datename(m, s.sighted);
```

```
April     0.24

August    0.58

July 0.72

June 0.84

May  0.8

September 0.36
```

Question 10

```
CREATE VIEW summits AS
SELECT f.location
FROM features f
WHERE f.map = 'Sawmill Mountain' and f.class = 'Summit'
AND NOT f.location = 'Cerro Noroeste';

SELECT DISTINCT a.person
FROM sightings a join summits s on a.location = s.location
WHERE (SELECT COUNT(summits.location) from summits) = (
 SELECT COUNT(s2.location)
 FROM summits s2
 WHERE EXISTS(
   SELECT a2.name
   FROM sightings a2
   WHERE a2.location = s2.location and a.person = a2.person
 )
```

```
);
```

Sandra

Question 11

```
CREATE VIEW all_flowers AS
SELECT DISTINCT s.person
FROM sightings s
WHERE (SELECT COUNT(sight_names.name) from sight_names) = (
 SELECT COUNT(s2.name)
 FROM sight_names s2
 WHERE EXISTS(
   SELECT a2.name
   FROM sightings a2
   WHERE s2.name = a2.name and s.person = a2.person
 )
);

CREATE VIEW first_all_flower AS
SELECT s.name, s.person, MIN(s.sighted) AS date_sighted
FROM sightings s
GROUP BY s.name, s.person;

SELECT MAX(f.date_sighted)
FROM first_all_flower f
JOIN all_flowers a ON f.person = a.person
GROUP BY a.person;
```

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Question 12

```
CREATE VIEW lats_top AS
SELECT ROW_NUMBER() OVER (ORDER BY f.latitude DESC) as upper_row,
 ROW_NUMBER() OVER (ORDER BY f.latitude DESC) + 19 as lower_row,
 f.latitude
FROM lats_dist f;
```

```sql
CREATE VIEW lats_ranges AS
SELECT a.latitude as upper_lat, b.latitude as lower_lat
FROM lats_top a, lats_top b
WHERE b.upper_row = a.lower_row;

CREATE VIEW lats_sightings AS
SELECT f.latitude, COUNT(s.name) AS num_sighted
FROM features f JOIN sightings s ON f.location = s.location
GROUP BY f.latitude;

CREATE VIEW lats_concat as
SELECT f.upper_lat, f.lower_lat, (
 SELECT SUM(f2.num_sighted)
 FROM lats_sightings f2
 WHERE f2.latitude <= f.upper_lat and f2.latitude >= f.lower_lat
) AS num_sighted
FROM lats_ranges f;

SELECT f.upper_lat, f.lower_lat, f.num_sighted
FROM lats_concat f
WHERE f.num_sighted = (SELECT MAX (f2.num_sighted) FROM lats_concat
f2);
```

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