MySQL Exercise 12: Answer Key

Question 1:
%%sql
SELECT created_at, DAYOFWEEK(created_at)
FROM complete_tests
LIMIT 49,200;

Question 2:
%%sql
SELECT created_at, DAYOFWEEK(created_at),
(CASE
  WHEN DAYOFWEEK(created_at)=1 THEN "Su"
  WHEN DAYOFWEEK(created_at)=2 THEN "Mo"
  WHEN DAYOFWEEK(created_at)=3 THEN "Tu"
  WHEN DAYOFWEEK(created_at)=4 THEN "We"
  WHEN DAYOFWEEK(created_at)=5 THEN "Th"
  WHEN DAYOFWEEK(created_at)=6 THEN "Fr"
  WHEN DAYOFWEEK(created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests
LIMIT 49,200;

Question 3:
%%sql
SELECT DAYOFWEEK(created_at),COUNT(created_at) AS numtests,
(CASE
  WHEN DAYOFWEEK(created_at)=1 THEN "Su"
  WHEN DAYOFWEEK(created_at)=2 THEN "Mo"
  WHEN DAYOFWEEK(created_at)=3 THEN "Tu"
  WHEN DAYOFWEEK(created_at)=4 THEN "We"
  WHEN DAYOFWEEK(created_at)=5 THEN "Th"
  WHEN DAYOFWEEK(created_at)=6 THEN "Fr"
  WHEN DAYOFWEEK(created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests
GROUP BY daylabel
ORDER BY numtests DESC;

Question 4:
```sql
%%sql
SELECT DAYOFWEEK(c.created_at),COUNT(c.created_at) AS numtests,
(CASE
   WHEN DAYOFWEEK(c.created_at)=1 THEN "Su"
   WHEN DAYOFWEEK(c.created_at)=2 THEN "Mo"
   WHEN DAYOFWEEK(c.created_at)=3 THEN "Tu"
   WHEN DAYOFWEEK(c.created_at)=4 THEN "We"
   WHEN DAYOFWEEK(c.created_at)=5 THEN "Th"
   WHEN DAYOFWEEK(c.created_at)=6 THEN "Fr"
   WHEN DAYOFWEEK(c.created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN dogs d
   ON c.dog_guid=d.dog_guid
WHERE d.exclude IS NULL OR d.exclude=0
GROUP BY daylabel
ORDER BY numtests DESC;
```

Question 5:
```sql
%%sql
SELECT dog_guid
FROM dogs d INNER JOIN users u
   ON d.user_guid=u.user_guid
```

Question 6:
```sql
%%sql
SELECT DISTINCT dog_guid
FROM dogs d JOIN users u
   ON d.user_guid=u.user_guid
```

Question 7:
```sql
%%sql
SELECT DISTINCT dog_guid
FROM dogs d JOIN users u
   ON d.user_guid=u.user_guid
WHERE (u.exclude IS NULL OR u.exclude=0) AND (d.exclude IS NULL OR
d.exclude=0);
```

Question 8:
```sql
%%sql
SELECT DAYOFWEEK(c.created_at) AS dayasnum, YEAR(c.created_at) AS year,
COUNT(c.created_at) AS numtests,
(CASE
    WHEN DAYOFWEEK(c.created_at)=1 THEN "Su"
    WHEN DAYOFWEEK(c.created_at)=2 THEN "Mo"
    WHEN DAYOFWEEK(c.created_at)=3 THEN "Tu"
    WHEN DAYOFWEEK(c.created_at)=4 THEN "We"
    WHEN DAYOFWEEK(c.created_at)=5 THEN "Th"
    WHEN DAYOFWEEK(c.created_at)=6 THEN "Fr"
    WHEN DAYOFWEEK(c.created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN
        (SELECT DISTINCT dog_guid
         FROM dogs d JOIN users u
            ON d.user_guid=u.user_guid
         WHERE ((u.exclude IS NULL OR u.exclude=0)
            AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
    ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY daylabel
ORDER BY numtests DESC;
```

Question 9:
```sql
%%sql SELECT DAYOFWEEK(c.created_at) AS dayasnum, YEAR(c.created_at) AS
year, COUNT(c.created_at) AS numtests,
(CASE
    WHEN DAYOFWEEK(c.created_at)=1 THEN "Su"
    WHEN DAYOFWEEK(c.created_at)=2 THEN "Mo"
    WHEN DAYOFWEEK(c.created_at)=3 THEN "Tu"
    WHEN DAYOFWEEK(c.created_at)=4 THEN "We"
    WHEN DAYOFWEEK(c.created_at)=5 THEN "Th"
    WHEN DAYOFWEEK(c.created_at)=6 THEN "Fr"
    WHEN DAYOFWEEK(c.created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN
        (SELECT DISTINCT dog_guid
        FROM dogs d JOIN users u
            ON d.user_guid=u.user_guid
        WHERE ((u.exclude IS NULL OR u.exclude=0)
            AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
    ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY year,daylabel
ORDER BY year ASC, numtests DESC;
```

Question 10:
```sql
%%sql
SELECT DAYOFWEEK(c.created_at) AS dayasnum, YEAR(c.created_at) AS year,
COUNT(c.created_at) AS numtests,
(CASE
  WHEN DAYOFWEEK(c.created_at)=1 THEN "Su"
  WHEN DAYOFWEEK(c.created_at)=2 THEN "Mo"
  WHEN DAYOFWEEK(c.created_at)=3 THEN "Tu"
  WHEN DAYOFWEEK(c.created_at)=4 THEN "We"
  WHEN DAYOFWEEK(c.created_at)=5 THEN "Th"
  WHEN DAYOFWEEK(c.created_at)=6 THEN "Fr"
  WHEN DAYOFWEEK(c.created_at)=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN
      (SELECT DISTINCT dog_guid
      FROM dogs d JOIN users u
         ON d.user_guid=u.user_guid
      WHERE ((u.exclude IS NULL OR u.exclude=0)
          AND u.country="US"
          AND (u.state!="HI" AND u.state!="AK")
          AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
  ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY year,daylabel
ORDER BY year ASC, numtests DESC;
```

Question 11:
```sql
%%sql
SELECT created_at, DATE_SUB(created_at, interval 6 hour) AS corrected_time
FROM complete_tests
LIMIT 100;
```

Question 12:
```sql
%%sql
SELECT DAYOFWEEK(DATE_SUB(created_at, interval 6 hour)) AS dayasnum,
YEAR(c.created_at) AS year, COUNT(c.created_at) AS numtests,
(CASE
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=1 THEN "Su"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=2 THEN "Mo"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=3 THEN "Tu"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=4 THEN "We"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=5 THEN "Th"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=6 THEN "Fr"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN
      (SELECT DISTINCT dog_guid
      FROM dogs d JOIN users u
        ON d.user_guid=u.user_guid
      WHERE ((u.exclude IS NULL OR u.exclude=0)
        AND u.country="US"
        AND (u.state!="HI" OR u.state!="AK")
        AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
  ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY year,daylabel
ORDER BY year ASC, numtests DESC;
```

Question 13:
```sql
%%sql
SELECT DAYOFWEEK(DATE_SUB(created_at, interval 6 hour)) AS dayasnum,
YEAR(c.created_at) AS year, COUNT(c.created_at) AS numtests,
(CASE
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=1 THEN "Su"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=2 THEN "Mo"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=3 THEN "Tu"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=4 THEN "We"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=5 THEN "Th"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=6 THEN "Fr"
  WHEN DAYOFWEEK(DATE_SUB(created_at, interval 6 hour))=7 THEN "Sa"
END) AS daylabel
FROM complete_tests c JOIN
      (SELECT DISTINCT dog_guid
       FROM dogs d JOIN users u
         ON d.user_guid=u.user_guid
       WHERE ((u.exclude IS NULL OR u.exclude=0)
         AND u.country="US"
         AND (u.state!="HI" OR u.state!="AK")
         AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
  ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY year,daylabel
ORDER BY year ASC, FIELD(daylabel,'Mo','Tu','We','Th','Fr','Sa','Su');
```

Question 14:
```sql
%%sql
SELECT dogs_cleaned.state AS state, COUNT(DISTINCT dogs_cleaned.user_guid) AS
numusers
FROM complete_tests c JOIN
     (SELECT DISTINCT dog_guid, u.user_guid, u.state
     FROM dogs d JOIN users u
        ON d.user_guid=u.user_guid
     WHERE ((u.exclude IS NULL OR u.exclude=0)
        AND u.country="US"
        AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
  ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY state
ORDER BY numusers DESC
LIMIT 5;
```

Question 15:
```sql
%%sql
SELECT dogs_cleaned.country AS country, COUNT(DISTINCT
dogs_cleaned.user_guid) AS numusers
FROM complete_tests c JOIN
     (SELECT DISTINCT dog_guid, u.user_guid, u.country
     FROM dogs d JOIN users u
        ON d.user_guid=u.user_guid
     WHERE ((u.exclude IS NULL OR u.exclude=0)
        AND (d.exclude IS NULL OR d.exclude=0))) AS dogs_cleaned
ON c.dog_guid=dogs_cleaned.dog_guid
GROUP BY country
ORDER BY numusers DESC
LIMIT 10;
```