Exercise 6.3 – Facet Queries

In this exercise, you will:

- Learn how to execute facet queries.

The following scenario is that you are building a search tool for *Killrvideo*, where you might need to break down results by certain categories, like genres. Below is the schema for the genres table:

```
CREATE TABLE killrvideo_test.videos (
    video_id timeuuid PRIMARY KEY,
    avg_rating float,
    description text,
    genres set<text>,
    mpaa_rating text,
    preview_thumbnail blob,
    release_date timestamp,
    release_year int,
    solr_query text,
    tags set<text>,
    title text,
    type text,
    url text,
    user_id uuid
)
```

1. Write a query to find all of the movies with a description of cat.

```
SELECT title FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat"}';
```

2. Now do a facet search that shows how many cat movies fall in each genre

```
SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat", "facet":{"field":"genres"}}';
```

3. You can facet multiple fields too using a JSON array. Write a query that facets on both genres and release year.

```
SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat", "facet":{"field":["genres","release_year"]}}';
```

4. Here you'll notice that many facets are included that have a count of 0, which is pointless for our search. Change the previous query so that the returned facets have at least a count of 1.

```
SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat", "facet":{"field":["genres","release_year"],
"mincount": 1}}';
```

5. Let's try a field facet query (using same search term) on the avg_rating column.

```
SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat", "facet":{"field":"avg_rating"}}';
```

6. Here you'll notice that having a facet for each unique value requires you to study all the values to make sense of them. Aggregating ratings within a small number of ranges would make more sense. Let's try again using a query facet search with three different facets where *avg_rating 0 – 6, >6 - <8, 8 – 10*.

```
SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cat", "facet":{"query":["avg_rating:[0 TO 6]",
"avg_rating:{6 TO 8}", "avg_rating:[8 TO 10]"]}}';
```

7. Now practice writing the following queries against the video table:

    a. A list of films that have "cow" in the description

    b. A query with "disc-jockey" in the tag field and faceted by genres and release year. Filter out any results with a facet of 0

    c. Write a facet query with three ranges: movies released from 1900 to 1940, movies released from 1941 to 1980, and movies released from 1981-2019. The films should have "whale" in the description

Answers are listed on the following page.

Try to work it out yourself and then check your results.

Answers:

```
SELECT title FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:cow"}';

SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:disc-jockey",
"facet":{"field":["genres","release_year"], "mincount": 1}}';

SELECT * FROM killrvideo_test.videos WHERE solr_query =
'{"q":"description:whale", "facet":{"query":["release_year:[1900 TO
1940]", "release_year:{1940 TO 1980}", "release_year:[1981 TO
2019]"]}}';
```