# 1 PROJECT DESCRIPTION
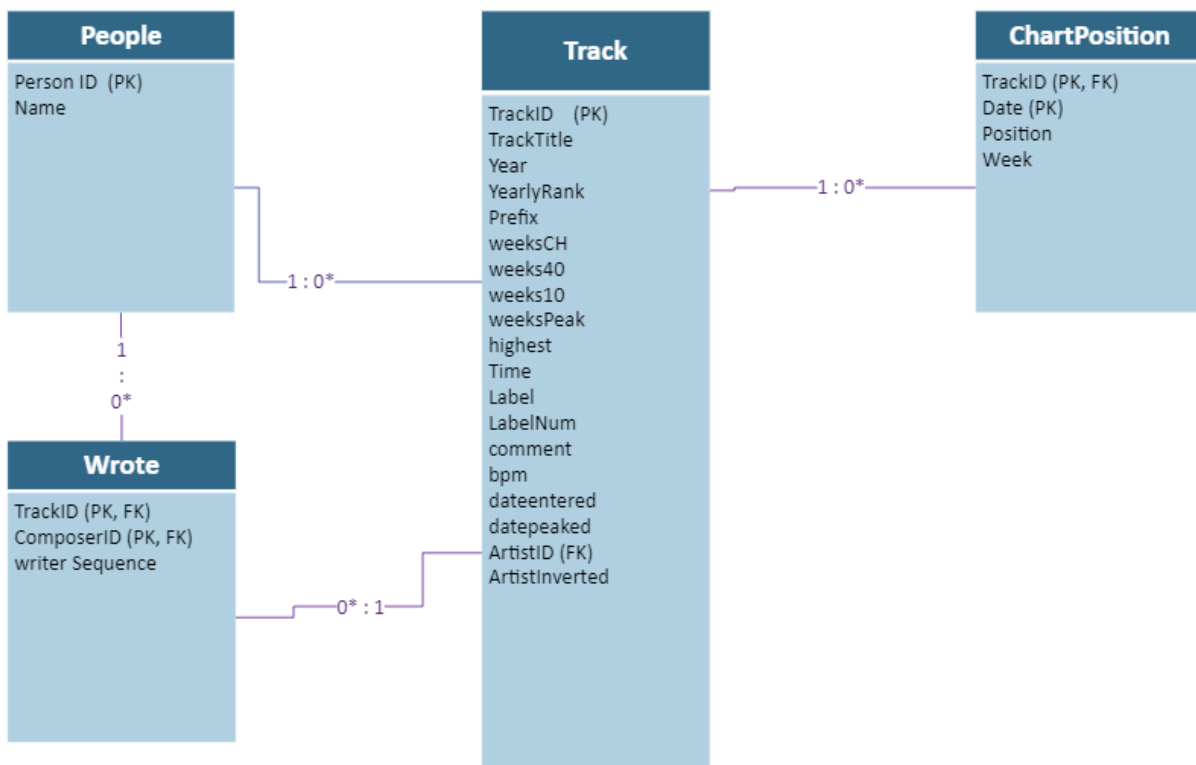
Taken from the project document:

*This project involves the construction of a music chart database using the flat-table spreadsheet data as handed out in class. The objective is to design and implement a Third-Normal-Form (3NF) database in SQL, using good relational modeling based on the given data and the business rules provided here. The designed tables are then to be populated with the imported data, and then used to produce the results for the queries listed here. Grading criteria will be posted on the website.*

# 2 ERD

# 3  TABLES

Because of the dependencies that each table has on one another, you would need to create the tables in the order of: (People, Tracks, Wrote, Position). Tracks depends on people, wrote depends on both tracks and people, and position depends on tracks. I am sorry it's not in a clear order as laid out below or in a easy to copy and past format to recreate, however with a little bit of quick scrolling and copy/paste it should be relatively fast.

## 3.1  TRACKS

```
Desc tracks;
+------------------+--------------+------+-----+---------+----------------+
| Field            | Type         | Null | Key | Default | Extra          |
+------------------+--------------+------+-----+---------+----------------+
| tr_id            | int          | NO   | PRI | NULL    | auto_increment |
| tr_title         | varchar(100) | NO   |     | NULL    |                |
| tr_year          | char(4)      | NO   |     | NULL    |                |
| tr_yearlyrank    | char(4)      | NO   |     | NULL    |                |
| tr_prefix        | char(10)     | YES  |     | NULL    |                |
| tr_weeksCH       | int          | NO   |     | 0       |                |
| tr_weeks40       | int          | NO   |     | 0       |                |
| tr_weeks10       | int          | NO   |     | 0       |                |
| tr_weekspeak     | int          | NO   |     | 0       |                |
| tr_highest       | int          | NO   |     | 100     |                |
| tr_time          | varchar(6)   | YES  |     | NULL    |                |
| tr_label         | char(30)     | YES  |     | NULL    |                |
| tr_labnum        | char(10)     | YES  |     | NULL    |                |
| tr_comment       | varchar(250) | YES  |     | NULL    |                |
| tr_bpm           | int          | YES  |     | NULL    |                |
| tr_dateentered   | date         | NO   |     | NULL    |                |
| tr_datepeaked    | date         | NO   |     | NULL    |                |
| tr_artist_id     | int          | NO   | MUL | NULL    |                |
| tr_artistInverted | char(200)   | NO   |     | NULL    |                |
+------------------+--------------+------+-----+---------+----------------+
19 rows in set (0.00 sec)
```

**This is built by:**

```
create table tracks
(
tr_id int primary key auto_increment,
tr_title varchar(100) not null,
tr_year CHAR(4) NOT NULL,
tr_yearlyrank char(4) not null,
tr_prefix char(10),
tr_weeksCH int not null default 0,
tr_weeks40 int not null default 0,
tr_weeks10 int not null default 0,
tr_weekspeak int not null default 0,
tr_highest int not null default 100,
tr_time varchar(6),
tr_label char(30),
tr_labnum char(10),
tr_comment varchar(250),
tr_bpm int,
tr_dateentered date not null,
tr_datepeaked date not null,
tr_artist_id int not null,
tr_artistInverted char(200) not null,
CONSTRAINT tr_artist_fk FOREIGN KEY (tr_artist_id) REFERENCES people(p_id)
);
```

**This is then filled by:**

```
insert into tracks (tr_title, tr_year, tr_yearlyrank, tr_prefix,
        tr_weeksCH, tr_weeks40, tr_weeks10, tr_weekspeak, tr_highest,
        tr_time, tr_label, tr_labnum, tr_comment, tr_bpm,
         tr_dateentered, tr_datepeaked, tr_artist_id, tr_artistInverted)
select
                  tracktitle, year, yearlyrank, prefix,
        weeksCH, weeks40, weeks10, weekspeak, highest,
        time, label, labnum, comment, bpm,
        dateentered, datepeaked, p_id, artistinverted
from top100, people
where
     (top100.artist = people.person);
```

## 3.2  PEOPLE

```
desc people;
+--------+-----------+------+-----+---------+----------------+
| Field  | Type      | Null | Key | Default | Extra          |
+--------+-----------+------+-----+---------+----------------+
| p_id   | int       | NO   | PRI | NULL    | auto_increment |
| person | char(100) | NO   |     | NULL    |                |
+--------+-----------+------+-----+---------+----------------+
2 rows in set (0.00 sec)
```

**Built by:**

```
create table people
(
  p_id int primary key auto_increment,
  person char(100) not null
);
```

**Filled by:**

```
insert into people (person)
  select writtenby1 from top100
    where writtenby1 is not null
UNION
  select writtenby2 from top100
    where writtenby2 is not null
UNION
  select writtenby3 from top100
    where writtenby3 is not null
UNION
  select writtenby4 from top100
    where writtenby4 is not null
UNION
  select writtenby5 from top100
    where writtenby5 is not null
UNION
  select writtenby6 from top100
    where writtenby6 is not null
UNION
  select writtenby7 from top100
    where writtenby7 is not null
UNION
  select writtenby8 from top100
    where writtenby8 is not null
UNION
  select artist from top100
     where artist is not null;
```

## 3.3 WROTE

```
desc wrote;
+-------------+------+------+-----+---------+-------+
| Field       | Type | Null | Key | Default | Extra |
+-------------+------+------+-----+---------+-------+
| wr_track_id | int  | NO   | PRI | NULL    |       |
| wr_seq      | int  | NO   | PRI | NULL    |       |
| wr_p_id     | int  | NO   | MUL | NULL    |       |
+-------------+------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

**Built by:**

```
create table wrote
(
  wr_track_id int not null,
  wr_seq int not null,
  wr_p_id int not null,
  PRIMARY KEY (wr_track_id, wr_seq),
  CONSTRAINT wr_track_fk FOREIGN KEY (wr_track_id) REFERENCES tracks(tr_id),
  CONSTRAINT wr_people_fk FOREIGN KEY (wr_p_id) REFERENCES people(p_id)
);
```

**Filled by:**

```
insert into wrote (wr_track_id,wr_seq,wr_p_id)
  select tr_id, 1, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby1 is not null) and (writtenby1 <> '') and
          (writtenby1 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 2, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby2 is not null) and (writtenby2 <> '') and
          (writtenby2 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 3, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby3 is not null) and (writtenby3 <> '') and
          (writtenby3 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 4, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby4 is not null) and (writtenby4 <> '') and
          (writtenby4 = person) and
```

```
                (tr_title = tracktitle)
UNION
  select tr_id, 5, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby5 is not null) and (writtenby5 <> '') and
          (writtenby5 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 6, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby6 is not null) and (writtenby6 <> '') and
          (writtenby6 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 7, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby7 is not null) and (writtenby7 <> '') and
          (writtenby7 = person) and
          (tr_title = tracktitle)
UNION
  select tr_id, 8, p_id from tracks, people, top100
  where (tr_year= year) and (tr_yearlyrank = yearlyrank)
          and
          (writtenby8 is not null) and (writtenby8 <> '') and
          (writtenby8 = person) and
          (tr_title = tracktitle)
;
```

## 3.4  POSITION

```
desc position;
+-------------+------+------+-----+---------+-------+
| Field       | Type | Null | Key | Default | Extra |
+-------------+------+------+-----+---------+-------+
| po_track_id | int  | NO   | PRI | NULL    |       |
| po_week     | int  | NO   | PRI | NULL    |       |
| po_date     | date | NO   |     | NULL    |       |
| po_pos      | int  | NO   |     | NULL    |       |
+-------------+------+------+-----+---------+-------+
4 rows in set (0.00 sec)
```

Created by:

```
create table position
(
  po_track_id int not null,
  po_week int not null,
  po_date date not null,
  po_pos int not null,
  PRIMARY KEY (po_track_id, po_week),
  CONSTRAINT po_track_fk FOREIGN KEY (po_track_id) REFERENCES tracks(tr_id)
);
```

Filled by:

```
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 1, tr_dateentered + interval (1-1)*7 day, week5 from tracks, top100
where (week1 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 2, tr_dateentered + interval (2-1)*7 day, week5 from tracks, top100
where (week2 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 3, tr_dateentered + interval (3-1)*7 day, week5 from tracks, top100
where (week3 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 4, tr_dateentered + interval (4-1)*7 day, week5 from tracks, top100
where (week4 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 5, tr_dateentered + interval (5-1)*7 day, week5 from tracks, top100
where (week5 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 6, tr_dateentered + interval (6-1)*7 day, week6 from tracks, top100
where (week6 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 7, tr_dateentered + interval (7-1)*7 day, week7 from tracks, top100
```

```
where (week7 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 8, tr_dateentered + interval (8-1)*7 day, week8 from tracks, top100
where (week8 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 9, tr_dateentered + interval (9-1)*7 day, week9 from tracks, top100
where (week9 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 10, tr_dateentered + interval (10-1)*7 day, week10 from tracks, top100
where (week10 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 11, tr_dateentered + interval (11-1)*7 day, week11 from tracks, top100
where (week11 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 12, tr_dateentered + interval (12-1)*7 day, week12 from tracks, top100
where (week12 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 13, tr_dateentered + interval (13-1)*7 day, week13 from tracks, top100
where (week13 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 14, tr_dateentered + interval (14-1)*7 day, week14 from tracks, top100
where (week14 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 15, tr_dateentered + interval (15-1)*7 day, week15 from tracks, top100
where (week15 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 16, tr_dateentered + interval (16-1)*7 day, week16 from tracks, top100
where (week16 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 17, tr_dateentered + interval (17-1)*7 day, week17 from tracks, top100
where (week17 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 18, tr_dateentered + interval (18-1)*7 day, week18 from tracks, top100
where (week18 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 19, tr_dateentered + interval (19-1)*7 day, week19 from tracks, top100
where (week19 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 20, tr_dateentered + interval (20-1)*7 day, week20 from tracks, top100
where (week20 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 21, tr_dateentered + interval (21-1)*7 day, week21 from tracks, top100
```

```
where (week21 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 22, tr_dateentered + interval (22-1)*7 day, week22 from tracks, top100
where (week22 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 23, tr_dateentered + interval (23-1)*7 day, week23 from tracks, top100
where (week23 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 24, tr_dateentered + interval (24-1)*7 day, week24 from tracks, top100
where (week24 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 25, tr_dateentered + interval (25-1)*7 day, week25 from tracks, top100
where (week25 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 26, tr_dateentered + interval (26-1)*7 day, week26 from tracks, top100
where (week26 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 27, tr_dateentered + interval (27-1)*7 day, week27 from tracks, top100
where (week27 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 28, tr_dateentered + interval (28-1)*7 day, week28 from tracks, top100
where (week28 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 29, tr_dateentered + interval (29-1)*7 day, week29 from tracks, top100
where (week29 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 30, tr_dateentered + interval (30-1)*7 day, week30 from tracks, top100
where (week30 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 31, tr_dateentered + interval (31-1)*7 day, week31 from tracks, top100
where (week31 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 32, tr_dateentered + interval (32-1)*7 day, week32 from tracks, top100
where (week32 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 33, tr_dateentered + interval (33-1)*7 day, week33 from tracks, top100
where (week33 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 34, tr_dateentered + interval (34-1)*7 day, week34 from tracks, top100
where (week34 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 35, tr_dateentered + interval (35-1)*7 day, week35 from tracks, top100
```

```
where (week35 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 36, tr_dateentered + interval (36-1)*7 day, week36 from tracks, top100
where (week36 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 37, tr_dateentered + interval (37-1)*7 day, week37 from tracks, top100
where (week37 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 38, tr_dateentered + interval (38-1)*7 day, week38 from tracks, top100
where (week38 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 39, tr_dateentered + interval (39-1)*7 day, week39 from tracks, top100
where (week39 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 40, tr_dateentered + interval (40-1)*7 day, week40 from tracks, top100
where (week40 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 41, tr_dateentered + interval (41-1)*7 day, week41 from tracks, top100
where (week41 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 42, tr_dateentered + interval (42-1)*7 day, week42 from tracks, top100
where (week42 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 43, tr_dateentered + interval (43-1)*7 day, week43 from tracks, top100
where (week43 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 44, tr_dateentered + interval (44-1)*7 day, week44 from tracks, top100
where (week44 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 45, tr_dateentered + interval (45-1)*7 day, week45 from tracks, top100
where (week45 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 46, tr_dateentered + interval (46-1)*7 day, week46 from tracks, top100
where (week46 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 47, tr_dateentered + interval (47-1)*7 day, week47 from tracks, top100
where (week47 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 48, tr_dateentered + interval (48-1)*7 day, week48 from tracks, top100
where (week48 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 49, tr_dateentered + interval (49-1)*7 day, week49 from tracks, top100
```

```
where (week49 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 50, tr_dateentered + interval (50-1)*7 day, week50 from tracks, top100
where (week50 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 51, tr_dateentered + interval (51-1)*7 day, week51 from tracks, top100
where (week51 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 52, tr_dateentered + interval (52-1)*7 day, week52 from tracks, top100
where (week52 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 53, tr_dateentered + interval (53-1)*7 day, week53 from tracks, top100
where (week53 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 54, tr_dateentered + interval (54-1)*7 day, week54 from tracks, top100
where (week54 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 55, tr_dateentered + interval (55-1)*7 day, week55 from tracks, top100
where (week55 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 56, tr_dateentered + interval (56-1)*7 day, week56 from tracks, top100
where (week56 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 57, tr_dateentered + interval (57-1)*7 day, week57 from tracks, top100
where (week57 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 58, tr_dateentered + interval (58-1)*7 day, week58 from tracks, top100
where (week58 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 59, tr_dateentered + interval (59-1)*7 day, week59 from tracks, top100
where (week59 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 60, tr_dateentered + interval (60-1)*7 day, week60 from tracks, top100
where (week60 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 61, tr_dateentered + interval (61-1)*7 day, week61 from tracks, top100
where (week61 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 62, tr_dateentered + interval (62-1)*7 day, week62 from tracks, top100
where (week62 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 63, tr_dateentered + interval (63-1)*7 day, week63 from tracks, top100
```

```
where (week63 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 64, tr_dateentered + interval (64-1)*7 day, week64 from tracks, top100
where (week64 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 65, tr_dateentered + interval (65-1)*7 day, week65 from tracks, top100
where (week65 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 66, tr_dateentered + interval (66-1)*7 day, week66 from tracks, top100
where (week66 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 67, tr_dateentered + interval (67-1)*7 day, week67 from tracks, top100
where (week67 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 68, tr_dateentered + interval (68-1)*7 day, week68 from tracks, top100
where (week68 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 69, tr_dateentered + interval (69-1)*7 day, week69 from tracks, top100
where (week69 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 70, tr_dateentered + interval (70-1)*7 day, week70 from tracks, top100
where (week70 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 71, tr_dateentered + interval (71-1)*7 day, week71 from tracks, top100
where (week71 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 72, tr_dateentered + interval (72-1)*7 day, week72 from tracks, top100
where (week72 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 73, tr_dateentered + interval (73-1)*7 day, week73 from tracks, top100
where (week73 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 74, tr_dateentered + interval (74-1)*7 day, week74 from tracks, top100
where (week74 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 75, tr_dateentered + interval (75-1)*7 day, week75 from tracks, top100
where (week75 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
insert into position (po_track_id,po_week, po_date, po_pos)
select tr_id, 76, tr_dateentered + interval (76-1)*7 day, week76 from tracks, top100
where (week76 > 0) and (tr_title = tracktitle) and (tr_year = year) and (tr_yearlyrank =
yearlyrank);
```

# 4   INIT SQL

Initializing the SQL top100 database was done with the given build.txt and load.txt files. It gives the following table structure, which was then filled based on the given csv file that I had downloaded to my machine and set the path to, as seen below, allowing me to access with local_infile set to 1.

## 4.1   TOP100

```
desc top100;
```

```
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| year           | char(4)      | NO   |     | NULL    |       |
| yearlyrank     | char(4)      | NO   |     | NULL    |       |
| source         | char(1)      | YES  |     | NULL    |       |
| prefix         | char(10)     | NO   | PRI | NULL    |       |
| weeksCH        | int          | NO   |     | 0       |       |
| weeks40        | int          | NO   |     | 0       |       |
| weeks10        | int          | NO   |     | 0       |       |
| weekspeak      | int          | NO   |     | 0       |       |
| highest        | int          | NO   |     | 100     |       |
| verified       | char(1)      | YES  |     | NULL    |       |
| artist         | varchar(200) | NO   |     | NULL    |       |
| artistinverted | varchar(200) | NO   |     | NULL    |       |
| tracktitle     | varchar(100) | NO   |     | NULL    |       |
| time           | varchar(6)   | YES  |     | NULL    |       |
| symbol         | varchar(6)   | YES  |     | NULL    |       |
| label          | varchar(30)  | YES  |     | NULL    |       |
| labnum         | varchar(10)  | YES  |     | NULL    |       |
| genre          | varchar(20)  | YES  |     | NULL    |       |
| comment        | varchar(250) | YES  |     | NULL    |       |
| bpm            | int          | YES  |     | NULL    |       |
| writtenby1     | varchar(100) | YES  |     | NULL    |       |
| writtenby2     | varchar(100) | YES  |     | NULL    |       |
| writtenby3     | varchar(100) | YES  |     | NULL    |       |
| writtenby4     | varchar(100) | YES  |     | NULL    |       |
| writtenby5     | varchar(100) | YES  |     | NULL    |       |
| writtenby6     | varchar(100) | YES  |     | NULL    |       |
| writtenby7     | varchar(100) | YES  |     | NULL    |       |
| writtenby8     | varchar(100) | YES  |     | NULL    |       |
| dateentered    | date         | NO   |     | NULL    |       |
| datepeaked     | date         | NO   |     | NULL    |       |
| week1          | int          | YES  |     | 0       |       |
| week2          | int          | YES  |     | 0       |       |
| week3          | int          | YES  |     | 0       |       |
| week4          | int          | YES  |     | 0       |       |
| week5          | int          | YES  |     | 0       |       |
| week6          | int          | YES  |     | 0       |       |
| week7          | int          | YES  |     | 0       |       |
| week8          | int          | YES  |     | 0       |       |
| week9          | int          | YES  |     | 0       |       |
| week10         | int          | YES  |     | 0       |       |
| week11         | int          | YES  |     | 0       |       |
| week12         | int          | YES  |     | 0       |       |
| week13         | int          | YES  |     | 0       |       |
| week14         | int          | YES  |     | 0       |       |
```

```
| week15            | int            | YES |      | 0      |      |
| week16            | int            | YES |      | 0      |      |
| week17            | int            | YES |      | 0      |      |
| week18            | int            | YES |      | 0      |      |
| week19            | int            | YES |      | 0      |      |
| week20            | int            | YES |      | 0      |      |
| week21            | int            | YES |      | 0      |      |
| week22            | int            | YES |      | 0      |      |
| week23            | int            | YES |      | 0      |      |
| week24            | int            | YES |      | 0      |      |
| week25            | int            | YES |      | 0      |      |
| week26            | int            | YES |      | 0      |      |
| week27            | int            | YES |      | 0      |      |
| week28            | int            | YES |      | 0      |      |
| week29            | int            | YES |      | 0      |      |
| week30            | int            | YES |      | 0      |      |
| week31            | int            | YES |      | 0      |      |
| week32            | int            | YES |      | 0      |      |
| week33            | int            | YES |      | 0      |      |
| week34            | int            | YES |      | 0      |      |
| week35            | int            | YES |      | 0      |      |
| week36            | int            | YES |      | 0      |      |
| week37            | int            | YES |      | 0      |      |
| week38            | int            | YES |      | 0      |      |
| week39            | int            | YES |      | 0      |      |
| week40            | int            | YES |      | 0      |      |
| week41            | int            | YES |      | 0      |      |
| week42            | int            | YES |      | 0      |      |
| week43            | int            | YES |      | 0      |      |
| week44            | int            | YES |      | 0      |      |
| week45            | int            | YES |      | 0      |      |
| week46            | int            | YES |      | 0      |      |
| week47            | int            | YES |      | 0      |      |
| week48            | int            | YES |      | 0      |      |
| week49            | int            | YES |      | 0      |      |
| week50            | int            | YES |      | 0      |      |
| week51            | int            | YES |      | 0      |      |
| week52            | int            | YES |      | 0      |      |
| week53            | int            | YES |      | 0      |      |
| week54            | int            | YES |      | 0      |      |
| week55            | int            | YES |      | 0      |      |
| week56            | int            | YES |      | 0      |      |
| week57            | int            | YES |      | 0      |      |
| week58            | int            | YES |      | 0      |      |
| week59            | int            | YES |      | 0      |      |
| week60            | int            | YES |      | 0      |      |
| week61            | int            | YES |      | 0      |      |
| week62            | int            | YES |      | 0      |      |
| week63            | int            | YES |      | 0      |      |
| week64            | int            | YES |      | 0      |      |
| week65            | int            | YES |      | 0      |      |
| week66            | int            | YES |      | 0      |      |
| week67            | int            | YES |      | 0      |      |
| week68            | int            | YES |      | 0      |      |
| week69            | int            | YES |      | 0      |      |
| week70            | int            | YES |      | 0      |      |
| week71            | int            | YES |      | 0      |      |
```

```
| week72         | int         | YES |     | 0       |       |
| week73         | int         | YES |     | 0       |       |
| week74         | int         | YES |     | 0       |       |
| week75         | int         | YES |     | 0       |       |
| week76         | int         | YES |     | 0       |       |
+----------------+-------------+------+-----+---------+-------+
106 rows in set (0.00 sec)
```

**Created by:**

```
create table top100
(
year CHAR(4) NOT NULL,
yearlyrank char(4) not null,
source char(1),
prefix char(10) primary key,
weeksCH int not null default 0,
weeks40 int not null default 0,
weeks10 int not null default 0,
weekspeak int not null default 0,
highest int not null default 100,
verified char(1),
artist varchar(200) not null,
artistinverted varchar(200) not null,
tracktitle varchar(100) not null,
time varchar(6),
symbol varchar(6),
label varchar(30),
labnum varchar(10),
genre varchar(20),
comment varchar(250),
bpm int,
writtenby1  varchar(100),
writtenby2  varchar(100),
writtenby3  varchar(100),
writtenby4  varchar(100),
writtenby5  varchar(100),
writtenby6  varchar(100),
writtenby7  varchar(100),
writtenby8  varchar(100),
dateentered date not null,
datepeaked date not null,
week1 int default 0,
week2 int default 0,
week3 int default 0,
week4 int default 0,
week5 int default 0,
week6 int default 0,
week7 int default 0,
week8 int default 0,
week9 int default 0,
week10 int default 0,
week11 int default 0,
week12 int default 0,
week13 int default 0,
```

```
week14 int default 0,
week15 int default 0,
week16 int default 0,
week17 int default 0,
week18 int default 0,
week19 int default 0,
week20 int default 0,
week21 int default 0,
week22 int default 0,
week23 int default 0,
week24 int default 0,
week25 int default 0,
week26 int default 0,
week27 int default 0,
week28 int default 0,
week29 int default 0,
week30 int default 0,
week31 int default 0,
week32 int default 0,
week33 int default 0,
week34 int default 0,
week35 int default 0,
week36 int default 0,
week37 int default 0,
week38 int default 0,
week39 int default 0,
week40 int default 0,
week41 int default 0,
week42 int default 0,
week43 int default 0,
week44 int default 0,
week45 int default 0,
week46 int default 0,
week47 int default 0,
week48 int default 0,
week49 int default 0,
week50 int default 0,
week51 int default 0,
week52 int default 0,
week53 int default 0,
week54 int default 0,
week55 int default 0,
week56 int default 0,
week57 int default 0,
week58 int default 0,
week59 int default 0,
week60 int default 0,
week61 int default 0,
week62 int default 0,
week63 int default 0,
week64 int default 0,
week65 int default 0,
week66 int default 0,
week67 int default 0,
week68 int default 0,
week69 int default 0,
week70 int default 0,
```

```
week71 int default 0,
week72 int default 0,
week73 int default 0,
week74 int default 0,
week75 int default 0,
week76 int default 0

);
```

**Filled by:**

```
LOAD DATA LOCAL INFILE 'C:\\ProgramData\\MySQL\\MySQL Server
8.0\\Uploads\\CHART19641975.csv'
INTO TABLE TOP100
FIELDS TERMINATED BY ','
ENCLOSED BY '"'
LINES TERMINATED BY '\r\n'
;
```

# 5  QUERY'S

## 5.1  1

Show the entire 100 entries in the chart for position date September 7, 1968.  The resulting table should have columns: Position, Title, Artist, DateEntered, ordered by position. (100 rows)

```
SELECT po_pos, tr_title, person, tr_dateentered
FROM tracks, position, people
WHERE
        (po_date = '1968-09-07') and
        (tr_artist_id = p_id) and
        (po_track_id = tr_id)
ORDER BY
        po_pos
;
```

| po_pos | tr_title | person | tr_dateentered |
|-------:|----------|--------|----------------|
| 1 | People Got To Be Free | Rascals, The | 1968-07-20 |
| 2 | Born To Be Wild | Steppenwolf | 1968-07-13 |
| 3 | Light My Fire | Jose Feliciano | 1968-07-27 |
| 4 | Harper Valley P.T.A. | Jeannie C. Riley | 1968-08-24 |
| 5 | Hello, I Love You | Doors, The | 1968-07-06 |
| 6 | The House That Jack Built | Aretha Franklin | 1968-08-17 |
| 7 | 1,2,3 Red Light | 1910 Fruitgum Company, The | 1968-07-27 |
| 8 | You're All I Need To Get By | Marvin Gaye | 1968-07-27 |
| 9 | I Can't Stop Dancing | Archie Bell & The Drells | 1968-07-20 |
| 10 | Stay In My Corner | Dells, The | 1968-06-29 |
| 11 | Sunshine Of Your Love | Cream, The | 1968-01-13 |
| 12 | You Keep Me Hangin' On | Vanilla Fudge | 1968-07-13 |
| 13 | Hush | Deep Purple | 1968-08-17 |
| 14 | Turn Around, Look At Me | Vogues, The | 1968-06-15 |
| 15 | Love Makes A Woman | Barbara Acklin | 1968-07-13 |
| 16 | Classical Gas | Mason Williams | 1968-06-22 |
| 17 | The Fool On The Hill | Sergio Mendes and Brasil '66 | 1968-08-10 |
| 18 | Slip Away | Clarence Carter | 1968-07-13 |
| 19 | Journey To The Center Of The Mind | Amboy Dukes, The | 1968-06-29 |
| 20 | Soul-Limbo | Booker T. & The MG's | 1968-07-13 |
| 21 | Sealed With A Kiss | Gary Lewis and the Playboys | 1968-06-22 |
| 22 | Do It Again | Beach Boys, The | 1968-07-27 |
| 23 | I Say A Little Prayer | Aretha Franklin | 1968-08-17 |
| 24 | Stoned Soul Picnic | 5th Dimension, The | 1968-06-01 |
| 25 | Dream A Little Dream Of Me | Mama Cass | 1968-07-06 |
| 26 | Please Return Your Love To Me | Temptations, The | 1968-08-03 |
| 27 | Magic Bus | Who, The | 1968-08-10 |
| 28 | Mr. Businessman | Ray Stevens | 1968-08-03 |
| 29 | Tuesday Afternoon (Forever Afternoon) | Moody Blues, The | 1968-07-20 |
| 30 | I've Gotta Get A Message To You | Bee Gees | 1968-08-17 |
| 31 | Pictures Of Matchstick Men | Status Quo, The | 1968-05-18 |
| 32 | The Eyes Of A New York Woman | B.J. Thomas | 1968-06-22 |
| 33 | Girls Can't Do What The Guys Do | Betty Wright | 1968-08-03 |
| 34 | I Get The Sweetest Feeling | Jackie Wilson | 1968-07-20 |
| 35 | On The Road Again | Canned Heat | 1968-08-10 |
| 36 | Down At Lulu's | Ohio Express | 1968-08-03 |
| 37 | Special Occasion | Smokey Robinson | 1968-08-17 |
| 38 | Girl Watcher | O'Kaysions, The | 1968-08-17 |
| 39 | Alice Long (You're Still My Favorite Girlfriend) | Tommy Boyce and Bobby Hart | 1968-07-06 |
| 40 | I've Never Found A Girl (To Love Me Like You Do) | Eddie Floyd | 1968-07-27 |
| 41 | Hurdy Gurdy Man | Donovan | 1968-06-22 |
| 42 | I Can't Dance To That Music You're Playin' | Martha Reeves and the Vandellas | 1968-08-10 |
| 43 | Give A Damn | Spanky and Our Gang | 1968-08-03 |
| 44 | The Snake | Al Wilson | 1968-08-17 |

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```
|    45 | Little Green Apples                        | O.C. Smith                          | 1968-08-17 |
|    46 | Hip City (Part 2)                          | Jr. Walker and the All Stars        | 1968-08-10 |
|    47 | Brown Eyed Woman                           | Bill Medley                         | 1968-08-03 |
|    48 | Six Man Band                               | Association, The                    | 1968-08-24 |
|    49 | I Wish It Would Rain                       | Gladys Knight and the Pips          | 1968-08-24 |
|    50 | Help Yourself                              | Tom Jones                           | 1968-08-31 |
|    51 | Time Has Come Today                        | Chambers Brothers, The              | 1968-08-10 |
|    52 | Who Is Gonna Love Me                       | Dionne Warwick                      | 1968-08-24 |
|    53 | Morning Dew                                | Lulu                                | 1968-08-10 |
|    54 | And Suddenly                               | Cherry People, The                  | 1968-07-20 |
|    55 | Can't You Find Another Way (Of Doing It)   | Sam and Dave                        | 1968-08-03 |
|    56 | To Wait For Love                           | Herb Alpert                         | 1968-08-31 |
|    57 | Listen Here                                | Eddie Harris                        | 1968-06-15 |
|    58 | Keep The One You Got                       | Joe Tex                             | 1968-08-10 |
|    59 | Piece Of My Heart                          | Big Brother & the Holding Company   | 1968-08-31 |
|    60 | Say It Loud - I'm Black And I'm Proud (Part 1) | James Brown                     | 1968-09-07 |
|    61 | (The Lament Of The Cherokee) Indian Reservation | Don Fardon                     | 1968-08-31 |
|    62 | My Special Angel                           | Vogues, The                         | 1968-09-07 |
|    63 | Workin' On A Groovy Thing                  | Patti Drew                          | 1968-08-03 |
|    64 | Midnight Confessions                       | Grass Roots, The                    | 1968-08-31 |
|    65 | The Weight                                 | Jackie DeShannon                    | 1968-08-24 |
|    66 | In-A-Gadda-Da-Vida                         | Iron Butterfly                      | 1968-08-24 |
|    67 | Barefoot In Baltimore                      | Strawberry Alarm Clock              | 1968-08-31 |
|    68 | I Loved And I Lost                         | Impressions, The                    | 1968-07-20 |
|    69 | Down On Me                                 | Big Brother & the Holding Company   | 1968-08-31 |
|    70 | (There's) Always Something There To Remind Me | Dionne Warwick                   | 1968-08-31 |
|    71 | Break Your Promise                         | Delfonics, The                      | 1968-08-31 |
|    72 | Baby, Come Back                            | Equals, The                         | 1968-09-07 |
|    73 | Fly Me To The Moon                         | Bobby Womack                        | 1968-08-17 |
|    74 | Down Here On The Ground                    | Lou Rawls                           | 1968-08-31 |
|    75 | Private Number                             | Judy Clay                           | 1968-08-31 |
|    76 | The Weight                                 | Band, The                           | 1968-08-31 |
|    77 | Unchained Melody                           | Sweet Inspirations, The             | 1968-08-31 |
|    78 | My Way Of Life                             | Frank Sinatra                       | 1968-08-31 |
|    79 | Hey, Western Union Man                     | Jerry Butler                        | 1968-08-31 |
|    80 | That Kind Of Woman                         | Merrilee Rush                       | 1968-08-31 |
|    81 | Fire                                       | Crazy World Of Arthur Brown, The    | 1968-09-07 |
|    82 | The Mule                                   | James Boys, The                     | 1968-08-31 |
|    83 | Don't Change Your Love                     | Five Stairsteps, The                | 1968-08-24 |
|    84 | Street Fighting Man                        | Rolling Stones, The                 | 1968-09-07 |
|    85 | Do What You Gotta Do                       | Bobby Vee                           | 1968-08-31 |
|    86 | If Love Is In Your Heart                   | Friend and Lover                    | 1968-08-31 |
|    87 | Then You Can Tell Me Goodbye               | Eddy Arnold                         | 1968-09-07 |
|    88 | Shoot'em Up, Baby                          | Andy Kim                            | 1968-09-07 |
|    89 | Naturally Stoned                           | Avant-Garde, The                    | 1968-08-31 |
|    90 | Shape Of Things To Come                    | Max Frost and the Troopers          | 1968-09-07 |
|    91 | Light My Fire                              | Doors, The                          | 1968-08-31 |
|    92 | Suzie Q (Part 1)                           | Creedence Clearwater Revival        | 1968-09-07 |
|    93 | The Funky Judge                            | Bull And The Matadors               | 1968-08-24 |
|    94 | The Woman I Love                           | B.B. King                           | 1968-08-24 |
|    95 | Sally Had A Party                          | Flavor                              | 1968-08-03 |
|    96 | Help Yourself (To All Of My Lovin')        | James and Bobby Purify              | 1968-08-31 |
|    97 | She's About A Mover                        | Otis Clay                           | 1968-08-24 |
|    98 | Since You've Been Gone                     | Ramsey Lewis                        | 1968-08-31 |
|    99 | Fool For You                               | Impressions, The                    | 1968-09-07 |
|   100 | Lady Madonna                               | Fats Domino                         | 1968-09-07 |
+-------+--------------------------------------------+-------------------------------------+------------+
100 rows in set (0.08 sec)
```

## 5.2   2

Show all distinct tracks whose position data is in 1970 (not the track year, but by position dates), which, at any time, occupied the #10 chart position (not necessarily the track's highest position reached). Show the song title and artist, ordered by title (43 rows).

```
SELECT DISTINCT tr_title, person
FROM tracks, people, position
WHERE
        (po_date BETWEEN '1970-01-01' AND '1970-12-31') and
        (po_pos = 10) and
        (tr_artist_id = p_id) and
        (po_track_id = tr_id)
ORDER BY
        tr_title
;
```

```
+-------------------------------------------------------+-----------------------------+
| tr_title                                              | person                      |
+-------------------------------------------------------+-----------------------------+
| (I Know) I'm Losing You                               | Rare Earth                  |
| 25 Or 6 To 4                                          | Chicago                     |
| Ain't No Mountain High Enough                         | Diana Ross                  |
| All Right Now                                         | Free                        |
| Arizona                                               | Mark Lindsay                |
| Ball Of Confusion (That's What The World Is Today)    | Temptations, The            |
| Come And Get It                                       | Badfinger                   |
| Didn't I (Blow Your Mind This Time)                   | Delfonics, The              |
| Easy Come, Easy Go                                    | Bobby Sherman               |
| Evil Ways                                             | Santana                     |
| Fire And Rain                                         | James Taylor                |
| Get Ready                                             | Rare Earth                  |
| Green-Eyed Lady                                       | Sugarloaf                   |
| He Ain't Heavy, He's My Brother                       | Hollies, The                |
| Hitchin' A Ride                                       | Vanity Fare                 |
| I'll Never Fall In Love Again                         | Dionne Warwick              |
| It Don't Matter To Me                                 | Bread                       |
| It's Only Make Believe                                | Glen Campbell               |
| Jam Up Jelly Tight                                    | Tommy Roe                   |
| Jingle Jangle                                         | Archies, The                |
| La La La (If I Had You)                               | Bobby Sherman               |
| Lay Down (Candles In The Rain)                        | Melanie                     |
| Leaving on A Jet Plane                                | Peter, Paul and Mary        |
| Let It Be                                             | Beatles, The                |
| Lola (Studio)                                         | Kinks, The                  |
| Lookin' Out My Back Door                              | Creedence Clearwater Revival |
| Make It With You                                      | Bread                       |
| Midnight Cowboy                                       | Ferrante and Teicher        |
| Montego Bay                                           | Bobby Bloom                 |
| No Matter What                                        | Badfinger                   |
| O-o-h Child                                           | Five Stairsteps, The        |
| Rainy Night In Georgia                                | Brook Benton                |
| Reflections Of My Life                                | Marmalade, The              |
| Share The Land                                        | Guess Who, The              |
| Spill The Wine                                        | Eric Burdon and War         |
| The Long And Winding Road                             | Beatles, The                |
| The Love You Save                                     | Jackson 5                   |
| The Rapper                                            | Jaggerz, The                |
| Tighter, Tighter                                      | Alive and Kicking           |
| Turn Back The Hands Of Time                           | Tyrone Davis                |
| Up The Ladder To The Roof                             | Supremes, The               |
| Venus                                                 | Shocking Blue, The          |
| Which Way You Goin' Billy?                            | Poppy Family, The           |
+-------------------------------------------------------+-----------------------------+
43 rows in set (0.03 sec)
```

## 5.3  3

What composers had their song reach number 1 for track year (not position year) 1972?  Order by composer name, showing composer name, song title, highest position (should all be 1).  31 rows.

```
SELECT person, tr_title, tr_highest
FROM people, tracks, wrote
WHERE
        (tr_year = 1972) and
        (tr_highest = 1) and
        (wr_track_id = tr_id) and
        (wr_p_id = p_id)
ORDER BY
        person
;
```

| person | tr_title | tr_highest |
|---|---|---|
| Al Bell (Alvertis Isbell) | I'll Take You There | 1 |
| Al Green | Let's Stay Together | 1 |
| Al Jackson | Let's Stay Together | 1 |
| Anthony Newley | The Candy Man | 1 |
| Barrett Strong | Papa Was A Rollin' Stone | 1 |
| Bill Withers | Lean On Me | 1 |
| Cary Gilbert | Me And Mrs. Jones | 1 |
| Chuck Berry | My Ding-A-Ling | 1 |
| David Arkin | Black & White | 1 |
| Dewey Bunnell | A Horse With No Name | 1 |
| Don Black | Ben | 1 |
| Don McLean | American Pie (Parts 1 and 2) | 1 |
| Earl Robinson | Black & White | 1 |
| Elliot Lurie | Brandy (You're A Fine Girl) | 1 |
| Eugene Record | Oh Girl | 1 |
| Ewan MacColl | The First Time Ever I Saw Your Face | 1 |
| Gilbert O'Sullivan | Alone Again (Naturally) | 1 |
| Helen Reddy | I Am Woman | 1 |
| Johnny Nash | I Can See Clearly Now | 1 |
| Kenny Gamble | Me And Mrs. Jones | 1 |
| Leon Huff | Me And Mrs. Jones | 1 |
| Leslie Bricusse | The Candy Man | 1 |
| Mac Davis | Baby Don't Get Hooked On Me | 1 |
| Neil Diamond | Song Sung Blue | 1 |
| Neil Young | Heart Of Gold | 1 |
| Norman Whitfield | Papa Was A Rollin' Stone | 1 |
| R. Burton | I Am Woman | 1 |
| Thomas Evans | Without You | 1 |
| Walter Scharf | Ben | 1 |
| William Peter Ham | Without You | 1 |
| Willie Mitchell | Let's Stay Together | 1 |

```
31 rows in set (0.00 sec)
```

## 5.4    4

What artists hit #1 in 1969, based only on the track year column, rather than the individual position dates?  Show artist, title, date peaked, highest position (should be '1'), order by DATE PEAKED. 16 rows.

```
SELECT person, tr_title, tr_datepeaked, tr_highest
FROM people, tracks
WHERE
        (tr_datepeaked BETWEEN '1969-01-01' AND '1969-12-31') and
        (tr_highest = 1) and
        (tr_artist_id = p_id)
ORDER BY
        tr_datepeaked
;
```

```
+-----------------------------------------+--------------------------------------------------+---------------+------------+
| person                                  | tr_title                                         | tr_datepeaked | tr_highest |
+-----------------------------------------+--------------------------------------------------+---------------+------------+
| Tommy James and the Shondells           | Crimson And Clover                               | 1969-02-01    |          1 |
| Sly & the Family Stone                  | Everyday People                                  | 1969-02-15    |          1 |
| Tommy Roe                               | Dizzy                                            | 1969-03-15    |          1 |
| 5th Dimension, The                      | Aquarius/Let The Sunshine In (The Flesh Failures)| 1969-04-12    |          1 |
| Beatles, The                            | Get Back                                         | 1969-05-24    |          1 |
| Henry Mancini, His Orchestra and Chorus | Love Theme From Romeo & Juliet                   | 1969-06-28    |          1 |
| Zager & Evans                           | In The Year 2525 (Exordium & Terminus)           | 1969-07-12    |          1 |
| Rolling Stones, The                     | Honky Tonk Women                                 | 1969-08-23    |          1 |
| Archies, The                            | Sugar, Sugar                                     | 1969-09-20    |          1 |
| Temptations, The                        | I Can't Get Next To You                          | 1969-10-18    |          1 |
| Elvis Presley                           | Suspicious Minds                                 | 1969-11-01    |          1 |
| 5th Dimension, The                      | Wedding Bell Blues                               | 1969-11-08    |          1 |
| Beatles, The                            | Come Together                                    | 1969-11-29    |          1 |
| Steam                                   | Na Na Hey Hey Kiss Him Goodbye                   | 1969-12-06    |          1 |
| Peter, Paul and Mary                    | Leaving on A Jet Plane                           | 1969-12-20    |          1 |
| Diana Ross and the Supremes             | Someday We'll Be Together                        | 1969-12-27    |          1 |
+-----------------------------------------+--------------------------------------------------+---------------+------------+
16 rows in set (0.00 sec)
```

## 5.5  5

What artists also wrote the track and had their peak position in the top 20 for track year = 1973? Show track title, artist name, highest position, ordered by artist name.  Should yield 40 rows.

```
SELECT tr_title, person, tr_highest
FROM tracks, people, wrote
WHERE
      (wr_p_id = tr_artist_id) and
      (tr_artist_id = p_id) and
      (wr_p_id = p_id) and
      (wr_track_id = tr_id) and
      (tr_highest BETWEEN 0 AND 20) and
      (tr_year = 1973)
ORDER BY
      person
;
```

| tr_title | person | tr_highest |
|----------|--------|-----------|
| Call Me (Come Back Home) | Al Green | 10 |
| Here I Am (Come And Take Me) | Al Green | 10 |
| My Maria | B.W. Stevenson | 9 |
| I'm Gonna Love You Just A Little More Baby | Barry White | 3 |
| Will It Go Round In Circles | Billy Preston | 1 |
| Space Race | Billy Preston | 4 |
| Knockin' On Heaven's Door | Bob Dylan | 12 |
| You're So Vain | Carly Simon | 1 |
| The Right Thing To Do | Carly Simon | 17 |
| Sitting | Cat Stevens | 16 |
| Uneasy Rider | Charlie Daniels | 9 |
| Superfly | Curtis Mayfield | 8 |
| Space Oddity | David Bowie | 15 |
| Funny Face | Donna Fargo | 5 |
| Frankenstein | Edgar Winter | 1 |
| Crocodile Rock | Elton John | 1 |
| Saturday Night's Alright For Fighting | Elton John | 12 |
| Goodbye Yellow Brick Road | Elton John | 2 |
| Daniel | Elton John | 2 |
| Give Me Love (Give Me Peace On Earth) | George Harrison | 1 |
| Get Down | Gilbert O'Sullivan | 7 |
| Out Of The Question | Gilbert O'Sullivan | 17 |
| Don't Let Me Be Lonely Tonight | James Taylor | 14 |
| Time In A Bottle | Jim Croce | 1 |
| Bad, Bad Leroy Brown | Jim Croce | 1 |
| Theme From "Cleopatra Jones" | Joe Simon | 18 |
| Rocky Mountain High | John Denver | 9 |
| Mind Games | John Lennon | 18 |
| Your Mama Don't Dance | Kenny Loggins | 4 |
| Why Me | Kris Kristofferson | 16 |
| Walk On The Wild Side | Lou Reed | 16 |
| Dead Skunk | Loudon Wainwright III | 16 |
| Let's Get It On | Marvin Gaye | 1 |
| Trouble Man | Marvin Gaye | 7 |
| Loves Me Like A Rock | Paul Simon | 2 |
| Kodachrome | Paul Simon | 2 |
| Higher Ground | Stevie Wonder | 4 |
| Superstition | Stevie Wonder | 1 |
| You Are The Sunshine Of My Life | Stevie Wonder | 1 |
| Hello It's Me | Todd Rundgren | 5 |

40 rows in set (0.01 sec)

## 5.6   6

Either by fancy SQL code or examination of the results of less fancy code, ascertain what 2 songs were on the chart the longest in 1972, and show the answer and the results that provided the answer (you can hand mark the answer, need not have SQL print it.  NOTE: use the position dates within 1972, not the track year for this one!

```
SELECT po_week, tr_title, po_date
FROM position, tracks
WHERE
      (po_track_id = tr_id) and
      (po_date BETWEEN '1972-01-01' AND '1973-01-07') and
      (po_week >= 22)
ORDER BY
      tr_title
;
```

```
+---------+-----------------------+------------+
| po_week | tr_title              | po_date    |
+---------+-----------------------+------------+
|      22 | I Am Woman            | 1972-11-18 |
|      23 | I Am Woman            | 1972-11-25 |
|      24 | I Am Woman            | 1972-12-02 |
|      25 | I Am Woman            | 1972-12-09 |
|      26 | I Am Woman            | 1972-12-16 |
|      27 | I Am Woman            | 1972-12-23 |
|      28 | I Am Woman            | 1972-12-30 |
|      29 | I Am Woman            | 1973-01-06 |
|      22 | Nice To Be With You   | 1972-07-22 |
|      22 | Slippin' Into Darkness | 1972-06-17 |
+---------+-----------------------+------------+
10 rows in set (0.03 sec)
```

Given this one can conclude that 'Nice To Be With You' and 'Slippin\' Into Darkness' were the 2 songs with the longest chart run in 1972. I Dismissed the longer running 'I Am Woman' since it clearly continues into 1973 on the charts list.

## 5.7   7

Which DISTINCT songs made the chart top 10 in July of 1969?  (Note: we are looking for the position(s) <= 10 during that July time period; this is NOT the same as Highest Position<=10... the highest may have happened outside of July!)  It should be 14 rows of unique songs.  Show title and artist, ordered by artist.

```
SELECT DISTINCT tr_title, person
FROM tracks, people, position
WHERE
      (tr_artist_id = p_id) and
      (po_track_id = tr_id) and
      (po_date BETWEEN '1969-07-01' AND '1969-07-31') and
      (po_pos <= 10)
ORDER BY
      person
LIMIT
      100
;
```

```
+--------------------------------------+---------------------------------------+
| tr_title                             | person                                |
+--------------------------------------+---------------------------------------+
| Baby, I Love You                     | Andy Kim                              |
| Get Back                             | Beatles, The                          |
| The Ballad Of John And Yoko          | Beatles, The                          |
| Spinning Wheel                       | Blood, Sweat & Tears                  |
| Bad Moon Rising                      | Creedence Clearwater Revival          |
| Love Theme From Romeo & Juliet       | Henry Mancini, His Orchestra and Chorus |
| What Does It Take (To Win Your Love) | Jr. Walker & the All Stars            |
| Too Busy Thinking About My Baby      | Marvin Gaye                           |
| Good Morning Starshine               | Oliver                                |
| My Cherie Amour                      | Stevie Wonder                         |
| One                                  | Three Dog Night                       |
| Crystal Blue Persuasion              | Tommy James and the Shondells         |
| Color Him Father                     | Winstons, The                         |
| In The Year 2525 (Exordium & Terminus) | Zager & Evans                       |
+--------------------------------------+---------------------------------------+
14 rows in set (0.03 sec)
```

## 5.8   8

Using the track's YEAR field (not position dates!) to determine the year, what song titles were performed by more than one artist for songs appearing on the chart any time in 1969? Show song title and artists, highest position, and date peaked for each, ordered by song title (so the same titles are next to each other) and track 'highest' position. (27 rows) Hint: you will need to reference the tracks table twice, using aliases, in the same query!

```
SELECT DISTINCT tracks.tr_title, person, tracks.tr_highest, tracks.tr_datepeaked
FROM tracks, people, tracks AS tracks2
WHERE
        (tracks.tr_year = 1969) and
        (tracks2.tr_year = 1969) and
        (p_id = tracks.tr_artist_id) and
        (tracks.tr_title = tracks2.tr_title) and
        (tracks.tr_artist_id != tracks2.tr_artist_id) and
        (tracks.tr_id != tracks2.tr_id)


ORDER BY
        tracks.tr_title, tr_highest
LIMIT
        200
;
```

| tr_title | person | tr_highest | tr_datepeaked |
|---|---|---|---|
| Abraham, Martin And John | Smokey Robinson | 33 | 1969-07-19 |
| Abraham, Martin And John | Moms Mabley | 35 | 1969-07-19 |
| By The Time I Get To Phoenix | Isaac Hayes | 37 | 1969-10-18 |
| By The Time I Get To Phoenix | Mad Lads, The | 84 | 1969-08-09 |
| Cloud Nine | Temptations, The | 6 | 1969-01-04 |
| Cloud Nine | Mongo Santamaria | 32 | 1969-03-08 |
| Feeling Alright | Joe Cocker | 69 | 1969-07-19 |
| Feeling Alright | Mongo Santamaria | 96 | 1969-12-06 |
| Galveston | Glen Campbell | 4 | 1969-04-12 |
| Galveston | Roger Williams | 99 | 1969-06-14 |
| Good Morning Starshine | Oliver | 3 | 1969-07-12 |
| Good Morning Starshine | Strawberry Alarm Clock | 87 | 1969-05-24 |
| Happy Heart | Andy Williams | 22 | 1969-05-31 |
| Happy Heart | Petula Clark | 62 | 1969-05-10 |
| I'll Never Fall In Love Again | Tom Jones | 6 | 1969-09-13 |
| I'll Never Fall In Love Again | Burt Bacharach | 93 | 1969-07-12 |
| Lodi | Creedence Clearwater Revival | 52 | 1969-05-24 |
| Lodi | Al Wilson | 67 | 1969-09-13 |
| Proud Mary | Creedence Clearwater Revival | 2 | 1969-03-08 |
| Proud Mary | Solomon Burke | 45 | 1969-06-07 |
| Proud Mary | Checkmates, Ltd., The | 69 | 1969-11-01 |
| The Weight | Aretha Franklin | 19 | 1969-03-22 |
| The Weight | Diana Ross and the Supremes | 46 | 1969-10-04 |
| These Eyes | Guess Who, The | 6 | 1969-05-31 |
| These Eyes | Jr. Walker & the All Stars | 16 | 1969-12-27 |
| Wichita Lineman | Glen Campbell | 3 | 1969-01-11 |
| Wichita Lineman | Sergio Mendes and Brasil '66 | 95 | 1969-12-06 |

27 rows in set (0.01 sec)

## 5.9  9

Show the top 40 songs for the week of 1964-04-04, showing in position order (1-40) the titles and artists. Do you notice anything unusual in the result?  (40 rows)

```
SELECT tr_title, person
FROM tracks, people, position
WHERE
        (p_id = tr_artist_id) and
        (po_track_id = tr_id) and
        (po_date = '1964-04-04') and
        (po_pos <= 40)
ORDER BY
        po_pos
;
```

```
+----------------------------------------------------+---------------------------+
| tr_title                                           | person                    |
+----------------------------------------------------+---------------------------+
| Can't Buy Me Love                                  | Beatles, The              |
| Twist And Shout                                    | Beatles, The              |
| She Loves You                                      | Beatles, The              |
| I Want To Hold Your Hand                           | Beatles, The              |
| Please Please Me                                   | Beatles, The              |
| Suspicion                                          | Terry Stafford            |
| Hello, Dolly!                                      | Louis Armstrong           |
| The Shoop Shoop Song (It's In His Kiss)            | Betty Everett             |
| My Heart Belongs To Only You                       | Bobby Vinton              |
| Glad All Over                                      | Dave Clark Five           |
| Dawn (Go Away)                                     | Four Seasons, The         |
| The Way You Do The Things You Do                   | Temptations, The          |
| Fun, Fun, Fun                                      | Beach Boys, The           |
| Don't Let The Rain Come Down (Crooked Little Man)  | Serendipity Singers, The  |
| Needles And Pins                                   | Searchers, The            |
| Stay                                               | Four Seasons, The         |
| Kissin' Cousins                                    | Elvis Presley             |
| You're A Wonderful One                             | Marvin Gaye               |
| Java                                               | Al (He's the King) Hirt   |
| Hi-Heel Sneakers                                   | Tommy Tucker              |
| Ain't Nothing You Can Do                           | Bobby Bland               |
| Money                                              | Kingsmen, The             |
| I Love You More And More Every Day                 | Al Martino                |
| Hippy Hippy Shake                                  | Swinging Blue Jeans, The  |
| Dead Man's Curve                                   | Jan and Dean              |
| Think                                              | Brenda Lee                |
| Navy Blue                                          | Diane Renay               |
| Blue Winter                                        | Connie Francis            |
| It Hurts Me                                        | Elvis Presley             |
| Nadine (Is It You)                                 | Chuck Berry               |
| I Saw Her Standing There                           | Beatles, The              |
| Hey Jean, Hey Dean                                 | Dean And Jean             |
| Tell It On The Mountain                            | Peter, Paul and Mary      |
| White On White                                     | Danny Williams            |
| Hey, Bobba Needle                                  | Chubby Checker            |
| Rip Van Winkle                                     | Devotions, The            |
| See The Funny Little Clown                         | Bobby Goldsboro           |
| My Heart Cries For You                             | Ray Charles               |
| That's The Way Boys Are                            | Lesley Gore               |
| The New Girl In School                             | Jan and Dean              |
+----------------------------------------------------+---------------------------+
40 rows in set (0.01 sec)
```

**The Beatles took the top 5 spots?!?!?! New album? Bribes?**

## 5.10  10

What songs having a TRACK YEAR = 1968 got their highest position in the Top 10, but never got into the Top 5?  Show title, artist, and date peaked, ordered by date peaked, and highest position (39 rows)

```
SELECT tr_title, person, tr_datepeaked
FROM tracks, people
WHERE
      (tr_year = 1968) and
      (tr_highest <= 10) and
      (tr_highest > 5) and
      (tr_artist_id = p_id)
ORDER BY
      tr_datepeaked, tr_highest
;
```

```
+-----------------------------------------------------------+-----------------------------+---------------+
| tr_title                                                  | person                      | tr_datepeaked |
+-----------------------------------------------------------+-----------------------------+---------------+
| If I Could Build My Whole World Around You                | Marvin Gaye                 | 1968-01-20    |
| Nobody But Me                                             | Human Beinz, The            | 1968-02-03    |
| Goin' Out Of My Head/Can't Take My Eyes Off You (Medley)  | Lettermen, The              | 1968-02-10    |
| I Wonder What She's Doing Tonite                          | Tommy Boyce and Bobby Hart  | 1968-02-24    |
| Bottle Of Wine                                            | Fireballs, The              | 1968-03-02    |
| Everything That Touches You                               | Association, The            | 1968-03-02    |
| I Thank You                                               | Sam and Dave                | 1968-03-23    |
| The Ballad Of Bonnie And Clyde                            | Georgie Fame                | 1968-04-13    |
| Mighty Quinn (Quinn The Eskimo)                           | Manfred Mann                | 1968-04-13    |
| Dance To The Music                                        | Sly and the Family Stone    | 1968-04-20    |
| I Got The Feelin'                                         | James Brown                 | 1968-04-27    |
| Cowboys To Girls                                          | Intruders, The              | 1968-05-18    |
| Love Is All Around                                        | Troggs, The                 | 1968-05-18    |
| Do You Know The Way To San Jose                           | Dionne Warwick              | 1968-05-18    |
| The Unicorn                                               | Irish Rovers, The           | 1968-05-25    |
| Ain't Nothing Like The Real Thing                         | Marvin Gaye                 | 1968-05-25    |
| Shoo-Be-Doo-Be-Doo-Da-Day                                 | Stevie Wonder               | 1968-05-25    |
| Think                                                     | Aretha Franklin             | 1968-06-15    |
| Reach Out Of The Darkness                                 | Friend and Lover            | 1968-06-22    |
| Angel Of The Morning                                      | Merrilee Rush               | 1968-06-29    |
| Here Comes The Judge                                      | Shorty Long                 | 1968-07-06    |
| Indian Lake                                               | Cowsills, The               | 1968-07-13    |
| Turn Around, Look At Me                                   | Vogues, The                 | 1968-08-17    |
| I Can't Stop Dancing                                      | Archie Bell & The Drells    | 1968-08-24    |
| Stay In My Corner                                         | Dells, The                  | 1968-08-24    |
| You Keep Me Hangin' On                                    | Vanilla Fudge               | 1968-08-31    |
| The House That Jack Built                                 | Aretha Franklin             | 1968-09-07    |
| You're All I Need To Get By                               | Marvin Gaye                 | 1968-09-14    |
| The Fool On The Hill                                      | Sergio Mendes and Brasil '66| 1968-09-28    |
| I've Gotta Get A Message To You                           | Bee Gees                    | 1968-09-28    |
| Slip Away                                                 | Clarence Carter             | 1968-10-05    |
| I Say A Little Prayer                                     | Aretha Franklin             | 1968-10-05    |
| My Special Angel                                          | Vogues, The                 | 1968-10-12    |
| Say It Loud - I'm Black And I'm Proud (Part 1)            | James Brown                 | 1968-10-19    |
| Over You                                                  | Gary Puckett                | 1968-10-26    |
| Elenore                                                   | Turtles, The                | 1968-11-02    |
| White Room                                                | Cream                       | 1968-11-09    |
| I Love How You Love Me                                    | Bobby Vinton                | 1968-12-14    |
| Both Sides Now                                            | Judy Collins                | 1968-12-21    |
+-----------------------------------------------------------+-----------------------------+---------------+
39 rows in set (0.00 sec)
```

# 6   WRITE-UP

Through this music database project, I had made a couple decisions based on various constraints that lead to me solving this project's queries. Upon getting MySQL set up on my personal machine, I could use the provided build and load files provided that creates the top100 table that I could then use to pull information and begin filling the other 3NF tables that I would need for this project. Starting by looking at tracks, I slowly moved portions of data into their own tables to remove partial and transitive dependencies.

First, the people table was created to remove the repeating the group of writers, along with putting the artist information into the table as well. Having an ID for each person allowed for a unique primary key, and then the person's name for reference. Looking back now, I could have also included an artist Inverted value that was optional could have removed it from the tracks table, however I kept it in tracks because each track only had 1 artist, saved by their ID and the artist inverted would only be need for each track.

Next, I needed a linking table for writers since it was a repeating group that would link writers to their tracks which contained a primary key composed of the two foreign keys from people and track ids. It also contained the sequence number incase it was every wondered what writer 1 vs writer 4 was for a song.

The third table I needed to make to stop the repeating group of weeks1 – 75 I made a position table that contains a Date as what week it happened, and a foreign key to which track ID it belongs to. It lastly continued the position it was in, and what week it was for that individual song. This table was then filled week by week, where any song that was in a place for each week would contain a position using MySQL date math to generate the correct date for each song.

Originally, I also planned on creating a table for each label and label number, which would have led to a better designed database. Along the time of learning MySQL, I missed separating this out, and with no need for our specific queries I never took the time to go back and take it out. If I was to redo this project, this would be something that I would plan on redoing.

Other than those, I believe that the following database would be truly in $3^{rd}$ normal form. I had taken out various parts from the original table that was listed as unneeded from the project description but kept everything else in case it would be needed and to preserve all the data that we have so that nothing is lost in the transfer to the new database structure. Overall, I had a good time learning MySQL through this project and enjoyed figuring out the query puzzles.