Week 2 – Tuesday – SQL Workshop

Task:

A client wants you to create a database to store music tracks. They would like this to be an SQL database that will act as the back-end of an app for searching for music.

Here is an example of the sort of information they want to store.

Running up that Hill by Kate Bush, released 1985. Highest UK chart position was 6. Track from the album 'Hounds of Love', Written by Kate Bush, Produced by EMI, Running time: 4.58

Create a schema that would store this information in a suitable format.

Populate the database with a few tracks of your own choice.

My Database:

CREATE TABLE Music (
      MusicID int,
      Track varchar(255),
      ArtistName varchar(255),
      Released int,
      HighestChartPosition int,
      OriginalAlbumName varchar(255),
      WriterName varChar(255),
      Label varchar(255),
      RunningTime decimal(4,2)
);
INSERT INTO Music
VALUES
(1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.58),
(2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
(3, 'Radio Ga Ga', 'Queen', 1984, 2, 'The Works', 'Roger Taylor', 'EMI', 5.48),
(4, 'Bohemian Rhapsody', 'Queen', 1975, 1, 'A Night at the Opera', 'Freddie Mercury', 'EMI', 5.55),
(5, 'Ironic', 'Alanis Morissette', 1996, 11, 'Jagged Little Pill', 'Alanis Morissette and Glen Ballard', 'Maverik', 3.48),
(6, 'Tik Tok', 'Kesha', 2009, 4, 'Animal', 'Kesha Sebeet, Dr Luke and Benny Blanco', 'RCA Records', 3.20);

Suggested queries:

- All tracks by Kate Bush

```
1  CREATE TABLE Music (
2      MusicID int,
3      Track varchar(255),
4      ArtistName varchar(255),
5      Released int,
6      HighestChartPosition int,
7      OriginalAlbumName varchar(255),
8      WriterName varChar(255),
9      Label varchar(255),
10     RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
```

Build Schema ⬇ | Edit Fullscreen ✎ | Browser ⬆ | [;] ▾

```
1  SELECT Track FROM Music WHERE ArtistName='Kate Bush'
2
```

Run SQL ▶ | ▾ | Edit Fullscreen ✎ | [;] ▾

Track
Running up that Hll
Babooshka

- All tracks that got into the top ten UK singles chart.

```
7      OriginalAlbumName varchar(255),
8      WriterName varChar(255),
9      Label varchar(255),
10     RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
16 (3, 'Radio Ga Ga', 'Queen', 1984, 2, 'The Works', 'Roger Taylor', 'EMI', 5.48),
17 (4, 'Bohemian Rhapsody', 'Queen', 1975, 1, 'A Night at the Opera', 'Freddie Mercury', 'EMI
18 (5, 'Ironic', 'Alanis Morissette', 1996, 11, 'Jagged Little Pill', 'Alanis Morissette and
19 (6, 'Tik Tok', 'Kesha', 2009, 4, 'Animal', 'Kesha Sebeet, Dr Luke and Benny Blanco', 'RCA
20
21
```

Build Schema ⬇ | Edit Fullscreen ✎ | Browser ⬆ | [;] ▾

```
1  SELECT * FROM Music WHERE HighestChartPosition < 11;
```

Run SQL ▶ | ▾ | Edit Fullscreen ✎ | [;] ▾

MusicID	Track	ArtistName	Released	HighestChartPosition	OriginalAlbumName	WriterName	Label	RunningTime
1	Running up that Hll	Kate Bush	1985	6	Hounds of Love	Kate Bush	EMI	4.58
2	Babooshka	Kate Bush	1980	5	Never for Ever	Kate Bush	EMI	3.26
3	Radio Ga Ga	Queen	1984	2	The Works	Roger Taylor	EMI	5.48
4	Bohemian Rhapsody	Queen	1975	1	A Night at the Opera	Freddie Mercury	EMI	5.55
6	Tik Tok	Kesha	2009	4	Animal	Kesha Sebeet, Dr Luke and Benny Blanco	RCA Records	3.2

- All tracks released before a certain date.

```
7      OriginalAlbumName varchar(255),
8      WriterName varchar(255),
9      Label varchar(255),
10     RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
16 (3, 'Radio Ga Ga', 'Queen', 1984, 2, 'The Works', 'Roger Taylor', 'EMI', 5.48),
17 (4, 'Bohemian Rhapsody', 'Queen', 1975, 1, 'A Night at the Opera', 'Freddie Mercury', 'EMI
18 (5, 'Ironic', 'Alanis Morissette', 1996, 11, 'Jagged Little Pill', 'Alanis Morissette and
19 (6, 'Tik Tok', 'Kesha', 2009, 4, 'Animal', 'Kesha Sebeet, Dr Luke and Benny Blanco', 'RCA
20
21
```

Build Schema ⬇ | Edit Fullscreen ✎ | Browser ⬆ | [;] ▾

```
1  SELECT * FROM Music WHERE Released < 1986;
```

Run SQL ▶ | ▾ | Edit Fullscreen ✎ | [;] ▾

MusicID	Track	ArtistName	Released	HighestChartPosition	OriginalAlbumName	WriterName	Label	RunningTime
1	Running up that Hll	Kate Bush	1985	6	Hounds of Love	Kate Bush	EMI	4.58
2	Babooshka	Kate Bush	1980	5	Never for Ever	Kate Bush	EMI	3.26
3	Radio Ga Ga	Queen	1984	2	The Works	Roger Taylor	EMI	5.48
4	Bohemian Rhapsody	Queen	1975	1	A Night at the Opera	Freddie Mercury	EMI	5.55

- Try and use some SUM/COUNT/AVG queries.

```
 7      OriginalAlbumName varchar(255),
 8      WriterName varChar(255),
 9      Label varchar(255),
10      RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
16 (3, 'Radio Ga Ga', 'Queen', 1984, 2, 'The Works', 'Roger Taylor', 'EMI', 5.48),
17 (4, 'Bohemian Rhapsody', 'Queen', 1975, 1, 'A Night at the Opera', 'Freddie Mercury', 'EMI
18 (5, 'Ironic', 'Alanis Morissette', 1996, 11, 'Jagged Little Pill', 'Alanis Morissette and
19 (6, 'Tik Tok', 'Kesha', 2009, 4, 'Animal', 'Kesha Sebeet, Dr Luke and Benny Blanco', 'RCA
20
21
```

```
1 SELECT AVG(HighestChartPosition) FROM Music
```

AVG(HighestChartPosition)

4.8333

Number 1's by Queen:

```
 1 CREATE TABLE Music (
 2      MusicID int,
 3      Track varchar(255),
 4      ArtistName varchar(255),
 5      Released int,
 6      HighestChartPosition int,
 7      OriginalAlbumName varchar(255),
 8      WriterName varchar(255),
 9      Label varchar(255),
10      RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
```

```
1 SELECT COUNT(*) FROM Music WHERE ArtistName='Queen' AND HighestChartPosition=1;
```

COUNT(*)

1

Total running time of tracks by Kate Bush:

```
 1 CREATE TABLE Music (
 2      MusicID int,
 3      Track varchar(255),
 4      ArtistName varchar(255),
 5      Released int,
 6      HighestChartPosition int,
 7      OriginalAlbumName varchar(255),
 8      WriterName varChar(255),
 9      Label varchar(255),
10      RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
```

```
1 SELECT SUM(Runningtime) FROM Music WHERE ArtistName='Kate Bush'
2
```

SUM(Runningtime)

7.84

Average running time of tracks by Kate Bush:

```
 1 CREATE TABLE Music (
 2      MusicID int,
 3      Track varchar(255),
 4      ArtistName varchar(255),
 5      Released int,
 6      HighestChartPosition int,
 7      OriginalAlbumName varchar(255),
 8      WriterName varChar(255),
 9      Label varchar(255),
10      RunningTime decimal(4,2)
11 );
12 INSERT INTO Music
13 VALUES
14 (1, 'Running up that Hll', 'Kate Bush', 1985, 6, 'Hounds of Love', 'Kate Bush', 'EMI', 4.5
15 (2, 'Babooshka', 'Kate Bush', '1980', 5, 'Never for Ever', 'Kate Bush', 'EMI', 3.26),
```

```
1 SELECT AVG(Runningtime) FROM Music WHERE ArtistName='Kate Bush'
2
```

AVG(Runningtime)

3.92