Computer Technologies in Telecommunications
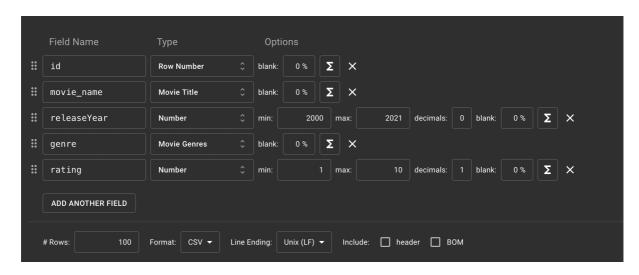
Week 8-9: SQLite3 on Ubuntu

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1. Introduction

In the report, we will test movie list with sqlite3 on the ubuntu console.

2. Generation of data from Mockaroo

We will use Mockaroo to generate the data (movies) from 2000 to 2021 we need and then the format is .csv file.

We will use LibreOffice to view the date from Mockaroo Generator.

	A	B	C	D	E
1	id	movie_name	releaseYear	genre	rating
2	1	Bad Girl	2009	Drama	2.4
3	2	Beginner's Guide to Endings, A	2006	Comedy|Drama	8
4	3	Zona Zamfirova	2005	Comedy|Drama	4.5
5	4	Rouva presidentti	2018	Documentary	5.1
6	5	Nekromantik	2013	Comedy|Horror	8.8
7	6	Locals, The	2007	Horror|Thriller	4.4
8	7	Bitter Tears of Petra von Kant, The (bitteren Tränen der Petra von Kant, Die)	2020	Drama	2
9	8	The Invisible Boy	2020	Fantasy|Sci-Fi	9.2
10	9	Justin Bieber's Believe	2013	Documentary	1.3
11	10	Ballad of a Soldier (Ballada o soldate)	2005	Drama|Romance|War	6.6
12	11	Hot to Trot	2006	Comedy	1.2
13	12	Crime of Passion	2005	Crime|Drama|Film-Noir	3.8
14	13	Mom's Night Out	2017	Comedy	3
15	14	Black Dahlia, The	2006	Crime|Drama|Mystery|Thriller	1.7
16	15	Hand of Death, The (Shao Lin men)	2011	Action	9.7
17	16	Lego: The Adventures of Clutch Powers	2001	Action|Animation	1.3
18	17	Strange Planet	2015	Comedy|Romance	6.9
19	18	Red Obession	2010	Documentary	9
20	19	Real Genius	2003	Comedy	9.6
21	20	Sum of Us, The	2005	Comedy|Drama	3.7
22	21	Whatever Happened to Harold Smith?	2017	Comedy	6.7
23	22	Millennium	2016	Drama|Sci-Fi|Thriller	8.3
24	23	April Fools, The	2015	Comedy|Drama|Romance	7
25	24	Single White Female 2: The Psycho	2018	Drama|Thriller	6.8
26	25	Krrish	2008	Adventure|Musical|Romance|Sci-Fi	7.6
27	26	Hogfather (Terry Pratchett's Hogfather)	2014	Adventure|Fantasy|Thriller	6.4
28	27	Who's Harry Crumb?	2002	Comedy|Mystery	2
29	28	Paradise Now	2019	Crime|Drama|Thriller|War	8.8
30	29	In the Shadow of the Machine	2006	Documentary	9.2
31	30	Gigi	2009	Comedy	1.8
32	31	Q.C. and Stiggs	2016	Comedy	4.2
33	32	Adonis Factor, The	2015	Documentary	3.5
34	33	Stacy's Knights	2003	Drama	3.7
35	34	Agnosia	2012	Drama|Thriller	2.9
36	35	Bernard and Doris	2003	Comedy|Drama	6.9

3. Installation and Using of Sqlite3

First, we will install sqlite3 by using command line and then we will create 'movies.db' and table 'movies' in the sqlite3 database. We will mention the command line to install sqlite3.

$sudo apt install sqlite3


```
waiyan@waiyan:~/Desktop/Sqlite$ sqlite3 movies.db
SQLite version 3.31.1 2020-01-27 19:55:54
Enter ".help" for usage hints.
sqlite> create table movies (movies_id int auto_increment, name text, releaseYear int, genre text, ra
ting decimanl(2,1));
sqlite> .mode csv movies
sqlite> .import movieList.csv movies
sqlite> .headers on
sqlite> .mode column
sqlite> select * from movies;
movies_id   name                releaseYear   genre                      rating
----------  ------------------  -----------   ------------------------   ----------
1           Lonely Place to Die, A   2015     Adventure|Crime|Thriller   8.5
2           Ship of Fools       2019          Drama                      6.6
3           Godzilla vs. Gigan (Ch   2006     Action|Adventure|Horror    4
4           Happy Accidents     2020          Romance|Sci-Fi             5.9
5           Slow Burn           2002          Drama|Mystery|Thriller     3.9
6           Half a Loaf of Kung Fu   2011     Action|Comedy              5.6
7           Blame It on Rio     2008          Comedy|Romance             3.1
8           Nixon by Nixon: In His   2004     Documentary                5.9
9           Hav Plenty          2004          Comedy                     1.2
10          January Man, The    2008          Comedy|Crime|Mystery|Thr   8.2
11          Rudo y Cursi (Rough an   2004     Comedy|Drama               8.9
12          Born Romantic       2021          Comedy|Drama|Romance       8.2
13          Nicotina            2007          Action|Comedy|Drama        2.5
14          Destiny Turns on the R   2000     Comedy                     9.1
15          Fishtales           2019          Children|Fantasy           8.4
16          Expired             2010          Comedy|Drama|Romance       9.2
17          Pitch Black         2019          Horror|Sci-Fi|Thriller     9.4
18          The Amazing Screw-On H   2016     Action|Adventure|Animati   6.3
19          Salomè              2008          Drama                      8.4
20          Immaculate Conception   2017      Comedy                     2.8
```

In that picture, we import movieList.csv file to movies and then we use headers and column to see clearly whenever we want to see movie lists.

4. Functions

4.1. Selecting and updating for a single movie

We will select one single movie from movie list.

```
sqlite> select * from movies where name="Ship of Fools";
movies_id    name                releaseYear  genre       rating
---------    -------------       -----------  ---------   ----------
2            Ship of Fools  2019              Drama       6.6
sqlite>
```

After that, we will update this movie from rating 6.6 to 8.

```
sqlite> update movies set rating=8 where rowid=2;
sqlite> select * from movies where rowid=2;
movies_id    name                releaseYear  genre       rating
---------    -------------       -----------  ---------   ----------
2            Ship of Fools  2019              Drama       8
```

4.2. Selecting and updating for multiple movies

We will select multiple movies especially genre = "Comedy" and show in the command line.

```
sqlite> select * from movies where genre="Comedy";
movies_id    name            releaseYear  genre        rating
---------    ---------       -----------  ---------    ---------
9            Hav Plenty  2004            Comedy       1.2
14           Destiny Tu  2000            Comedy       9.1
20           Immaculate  2017            Comedy       2.8
30           Guantaname  2003            Comedy       6.7
37           Brother Ra  2004            Comedy       8.2
67           What's the  2006            Comedy       1.2
69           Friend Zon  2008            Comedy       3.3
86           Scary Movi  2004            Comedy       8.5
87           Broadway D  2013            Comedy       1.5
91           Juwanna Ma  2002            Comedy       4
92           Ishtar      2019            Comedy       2.5
```

We will update all the comedy movies to rating 5 by using the following command.

```
sqlite> update movies set rating=5 where genre="Comedy";
sqlite> select * from movies where genre="Comedy";
movies_id    name          releaseYear   genre         rating
---------    ---------     -----------   ---------     ---------
9            Hav Plenty    2004          Comedy        5
14           Destiny Tu    2000          Comedy        5
20           Immaculate    2017          Comedy        5
30           Guantaname    2003          Comedy        5
37           Brother Ra    2004          Comedy        5
67           What's the    2006          Comedy        5
69           Friend Zon    2008          Comedy        5
86           Scary Movi    2004          Comedy        5
87           Broadway D    2013          Comedy        5
91           Juwanna Ma    2002          Comedy        5
92           Ishtar        2019          Comedy        5
```

4.3. Delete

For the last test, we will delete the first 10 movies from the list. Before deleting movies, we will select movies from the database.

```
sqlite> select * from movies;
movies_id    name                     releaseYear   genre                        rating
---------    --------------------     -----------   ----------------------       ---------
1            Lonely Place to Die, A   2015          Adventure|Crime|Thriller     8.5
2            Ship of Fools            2019          Drama                        8
3            Godzilla vs. Gigan (Ch   2006          Action|Adventure|Horror      4
4            Happy Accidents          2020          Romance|Sci-Fi               5.9
5            Slow Burn                2002          Drama|Mystery|Thriller       3.9
6            Half a Loaf of Kung Fu   2011          Action|Comedy                5.6
7            Blame It on Rio          2008          Comedy|Romance               3.1
8            Nixon by Nixon: In His   2004          Documentary                  5.9
9            Hav Plenty               2004          Comedy                       5
10           January Man, The         2008          Comedy|Crime|Mystery|Thr     8.2
11           Rudo y Cursi (Rough an   2004          Comedy|Drama                 8.9
12           Born Romantic            2021          Comedy|Drama|Romance         8.2
13           Nicotina                 2007          Action|Comedy|Drama          2.5
14           Destiny Turns on the R   2000          Comedy                       5
```

We will delete ten movies from the list and show in the console.

```
sqlite> delete from movies where rowid<=10;
sqlite> select * from movies;
movies_id    name                             releaseYear  genre          rating
----------   ------------------------------   -----------  ------------   ----------
11           Rudo y Cursi (Rough and Vulgar)  2004         Comedy|Drama   8.9
12           Born Romantic                    2021         Comedy|Drama   8.2
13           Nicotina                         2007         Action|Comed   2.5
14           Destiny Turns on the Radio       2000         Comedy         5
15           Fishtales                        2019         Children|Fan   8.4
16           Expired                          2010         Comedy|Drama   9.2
17           Pitch Black                      2019         Horror|Sci-F   9.4
18           The Amazing Screw-On Head        2016         Action|Adven   6.3
19           Salomè                           2008         Drama          8.4
20           Immaculate Conception of Little  2017         Comedy         5
21           Dangerous Man, A                 2004         Action|Crime   6.7
22           Balkan Spy (Balkanski spijun)    2003         Comedy|Drama   7.5
23           Platinum Blonde                  2003         Comedy|Roman   6.7
24           I Don't Want to Be a Man (Ich m  2018         Comedy|Roman   6.4
25           Beau Brummell: This Charming Ma  2005         Drama          7.9
26           Other One, The                   2001         Drama|Myster   5.2
```

5.Conclusion

In this text, we have realized that the sqlite3 is easy to use for the database. Moveover, we can use sqlite3 for all the OS like (Windows, Linux, Mac and Unix) and the command lines are easy to recognize.