

بخش ۱. با اجرای دستور `sudo -i -u postgres` به کاربر `postgres` سوییچ می شود، سپس `psql` و وارد محیط `psql` می شویم. پایگاه داده ای بنام `user` اصلی که در اینجا `misaghi` ساخته می شود. سپس به کاربر `misaghi` دوباره سوییچ می شود و با دستور `psql` به پایگاه داده متصل می شویم. سپس از دستور

`\i /path/to/files` استفاده می شود و فایل `psql` خوانده می شود. در نهایت با دستور

`\copy table-name '/path/to/text/files.txt'` محتویات فایل های به جداول مربوطه کپی می شود. (مشکل `permission denied` پیدا می کردم حتی وقتی همه ی مجوزها را به گروه و کاربر `postgres` می دادم. پس از این روش استفاده کردم.)

```
exercise_2=> \l
exercise_2=> \d
      List of relations
Schema | Name      | Type  | Owner
-----+-----+-----+-----
public | films     | table | misaghi
public | people    | table | misaghi
public | reviews   | table | misaghi
public | roles     | table | misaghi
(4 rows)

exercise_2=> \copy people from '/home/misaghi/DB_2/people.txt';
COPY 8397
exercise_2=> \copy reviews from '/home/misaghi/DB_2/reviews.txt';
COPY 4968
exercise_2=> \copy roles from '/home/misaghi/DB_2/roles.txt';
COPY 19791
exercise_2=> █

exercise_2=> \i /home/misaghi/DB_2/mysql.sql
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
exercise_2=> \d
      List of relations
Schema | Name      | Type  | Owner
-----+-----+-----+-----
public | films     | table | misaghi
public | people    | table | misaghi
public | reviews   | table | misaghi
public | roles     | table | misaghi
(4 rows)
```

بخش ۲.

۱.

```
exercise_2=> select title from films;
```

۲.

```
exercise_2=> select (10/3);  
?column?  
-----  
          3  
(1 row)
```

۳.

```
exercise_2=> select release_year from films;
```

۴.

```
exercise_2=> select split_part(name, ' ', 1) as first_name from people;
```

۵.

```
exercise_2=> select title from films;  
exercise_2=>
```

۶.

```
exercise_2=> select title, release_year from films;
```

۷.

```
exercise_2=> select title, release_year, country from films;
```

۸.

```
exercise_2=> select * from films;
```

.9

```
exercise_2=> select distinct country from films;
```

.10

```
exercise_2=> select distinct certification from films;
certification
-----
Unrated
M
G
NC-17
GP
PG
Approved

X
PG-13
R
Not Rated
Passed
(13 rows)
```

.11

```
exercise_2=> select distinct role from roles;
role
-----
director
actor
(2 rows)
```

.12

```
exercise_2=> select count(id) as people_count from people;
people_count
-----
8397
(1 row)
```

.13

```
exercise_2=> select count(birthdate) from people;
count
-----
6152
(1 row)
```

.14

```
exercise_2=> select count(distinct birthdate) from people;
count
-----
5398
(1 row)
```

.15

```
exercise_2=> select count(distinct country) from films;
count
-----
64
(1 row)
```

.16

```
exercise_2=> select * from films
where release_year = 2016;
```

.17

```
exercise_2=> select count(id) from films
exercise_2-> where release_year < 2000;
count
-----
1337
(1 row)
```

.18

```
exercise_2=> select title, release_year from films
exercise_2-> where release_year > 2000;
```

.19

```
exercise_2=> select * from films where language = 'French';
```

.20

```
exercise_2=> select * from films where language = 'French';
exercise_2=> select name, birthdate from people
exercise_2-> where birthdate = '1974-11-11';
name | birthdate
-----+-----
Leonardo DiCaprio | 1974-11-11
(1 row)
```

.۲۱

```
exercise_2=> select count(id) from films
where language = 'Hindi';
count
-----
      28
(1 row)
```

.۲۲

```
exercise_2=> select * from films
where certification = 'R';
```

.۲۳

```
exercise_2=> select title, release_year from films
where language = 'French' and release_year < 2000;
      title | release_year
-----+-----
Une Femme Mariée | 1964
Pierrot le Fou | 1965
Mississippi Mermaid | 1969
Subway | 1985
Les visiteurs | 1993
The Horseman on the Roof | 1995
When the Cat's Away | 1996
The Chambermaid on the Titanic | 1997
The Swindle | 1997
Les couloirs du temps: Les visiteurs II | 1998
The Red Violin | 1998
(11 rows)
```

.۲۴

```
exercise_2=> select title, release_year from films
where release_year between 1990 and 1999;
exercise 2=>
```

.۲۵

```
exercise_2=> select title, release_year from films
where release_year between 1990 and 2000;
```

.۲۶

```
exercise_2=> select title, release_year from films
exercise_2-> where (release_year=1990 or release_year=2000) and duration > 120;
exercise_2=> █
```

.۲۷

```
exercise_2=> select name from people where deathdate is null;
exercise_2=> █
```

.۲۸

```
exercise_2=> select count(id) from films where language is null;
count
-----
      11
(1 row)
```

.۲۹

```
exercise_2=> select name from people
exercise_2-> where name like 'B%';
exercise_2=> █
```

.۳۰

```
exercise_2=> select name from people
exercise_2-> where name like '_r%';█
```

.۳۱

```
exercise_2=> select sum(duration) as wasted_time from films;
wasted_time
-----
      534882
(1 row)
```

.۳۲

```
exercise_2=> select max(duration) from films;
max
-----
    334
(1 row)
```

.۳۳

```
exercise_2=> select avg(duration) from films;
              avg
-----
107.9479313824419778
(1 row)
```

.۳۴

```
exercise_2=> select avg(gross) from films;
              avg
-----
48705108.257335257335
(1 row)
```

.۳۵

```
exercise_2=> select sum(gross) from films
where release_year >= 2000;
              sum
-----
150900926358
(1 row)
```

.۳۶

```
exercise_2=> select avg(gross) from films
exercise_2-> where title like 'A%';
              avg
-----
47893236.422480620155
(1 row)
```

.۳۷

```
exercise_2=> select min(gross) from films
exercise_2-> where release_year = 1994;
              min
-----
125169
(1 row)
```

.۳۸

```
exercise_2=> select max(gross) from films
exercise_2-> where release_year between 2000 and 2012;
              max
-----
760505847
(1 row)
```

.۳۹

```
exercise_2=> select ((count(deathdate) * 100.0 / count(id))) as percentage_dead
from people;
percentage_dead
-----
9.3723949029415267
(1 row)
```

.۴۰

```
exercise_2=> select (max(release_year) - min(release_year)) / 10 as number_of_de
cades from films;
number_of_decades
-----
10
(1 row)
```

.۴۱

```
exercise_2=> select * from films where
exercise_2-> certification != 'R';
exercise_2=> █
```

.۴۲

```
exercise_2=> select title, (gross - budget) as net_profit from films; █
```

.۴۳

```
exercise_2=> select title, duration / 60.0 as duration_hours from films;
exercise_2=> █
```

.۴۴

```
exercise_2=> select avg(duration / 60.0) as avg_duration_hours from films;
avg_duration_hours
-----
1.79913218970736629689
(1 row)
```

.۴۵

```
exercise_2=> select name from people order by name asc;
exercise_2=> █
```



.۴۶

```
exercise_2=> select name from people order by birthdate asc;
exercise_2=> █
```

.۴۷

```
exercise_2=> select birthdate, name from people order by birthdate;
exercise_2=> █
```

.۴۸

```
exercise_2=> select title from films
exercise_2-> where release_year = 2000 or release_year=2012
exercise_2-> order by release_year asc;
exercise_2=> █
```

.۴۹

```
exercise_2=> select * from films where
exercise_2-> release_year != 2015
exercise_2-> order by duration asc;
exercise_2=> █
```

.۵۰

```
exercise_2=> select title, gross from films
where title like 'M%'
order by title asc;
exercise_2=> █
```

.۵۱

```
exercise_2=> select imdb_score, film_id from reviews order by imdb_score desc;
exercise_2=> █
```

.۵۲

```
exercise_2=> select title, duration from films order by duration desc;█
```

.۵۳

```
exercise_2=> select birthdate, name from people order by name asc, birthdate asc
;
exercise_2=> █
```

.54

```
exercise_2=> select certification, release_year, title from films
exercise_2-> order by certification asc, release_year asc;
exercise_2=> █
```

.55

```
exercise_2=> select release_year, count(id) from films
group by (release_year);
exercise_2=> █
```

.56

```
exercise_2=> select release_year, avg(duration) from films
group by (release_year);
```

.57

```
exercise_2=> select release_year, max(budget) from films
group by (release_year);
```

.58

```
exercise_2=> select language, sum(gross) from films
group by (language);
exercise_2=> █
```

.59

```
exercise_2=> select release_year, country, max(budget) from films
group by(country, release_year)
order by release year asc, country asc;
```

.9.

```
exercise_2=> select release_year from films
exercise_2-> group by (release_year)
exercise_2-> having count(id) > 200;
release_year
```

```
-----
      2008
      2009
      2005
      2013
      2015
      2002
      2004
      2014
      2010
      2011
      2007
      2006
      2012
```

(13 rows)

.91

```
exercise_2=> select country, avg(budget) as avg_budget, avg(gross) as avg_gross
from films
group by (country)
having count(id) > 10
order by country asc
limit 5;
```

| country   | avg_budget                | avg_gross             |
|-----------|---------------------------|-----------------------|
| Australia | 31172110.4600000000000000 | 40205909.571428571429 |
| Canada    | 14798458.715596330275     | 22432066.680555555556 |
| China     | 62219000.0000000000000000 | 14143040.736842105263 |
| Denmark   | 13922222.222222222222     | 1418469.111111111111  |
| France    | 30672034.615384615385     | 16350593.578512396694 |

(5 rows)