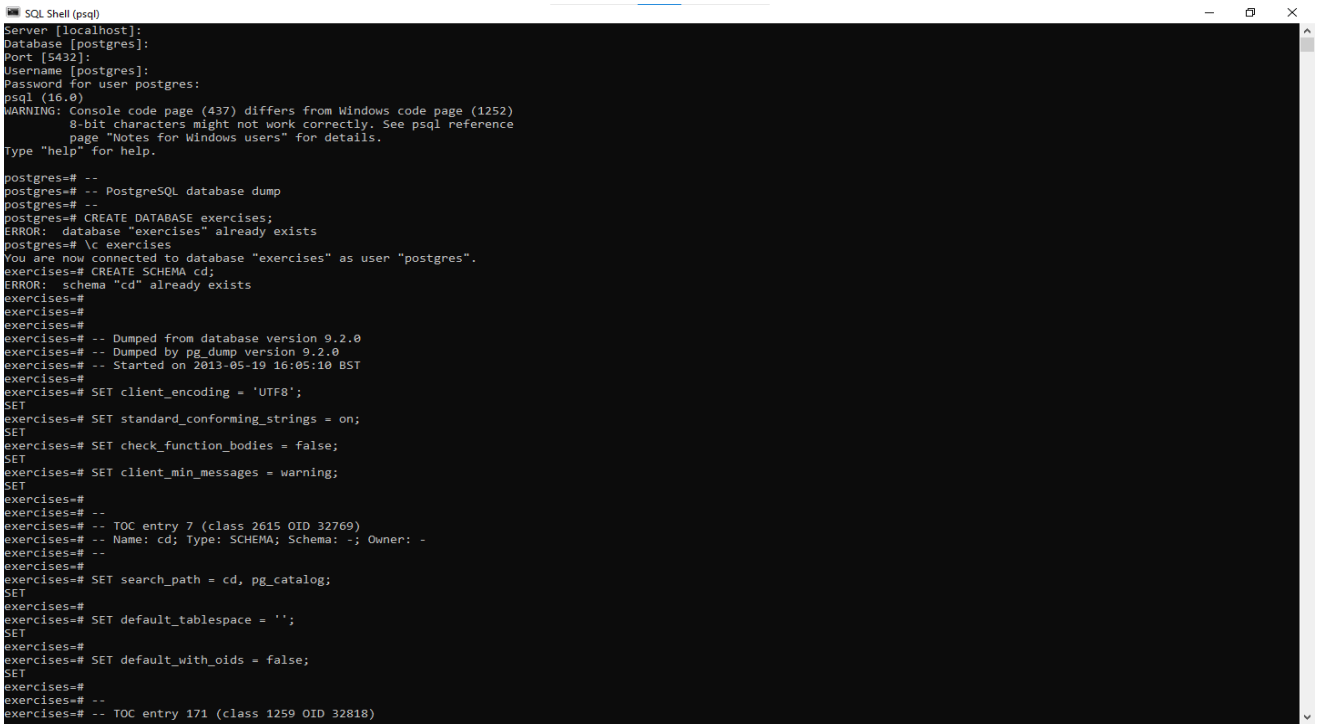
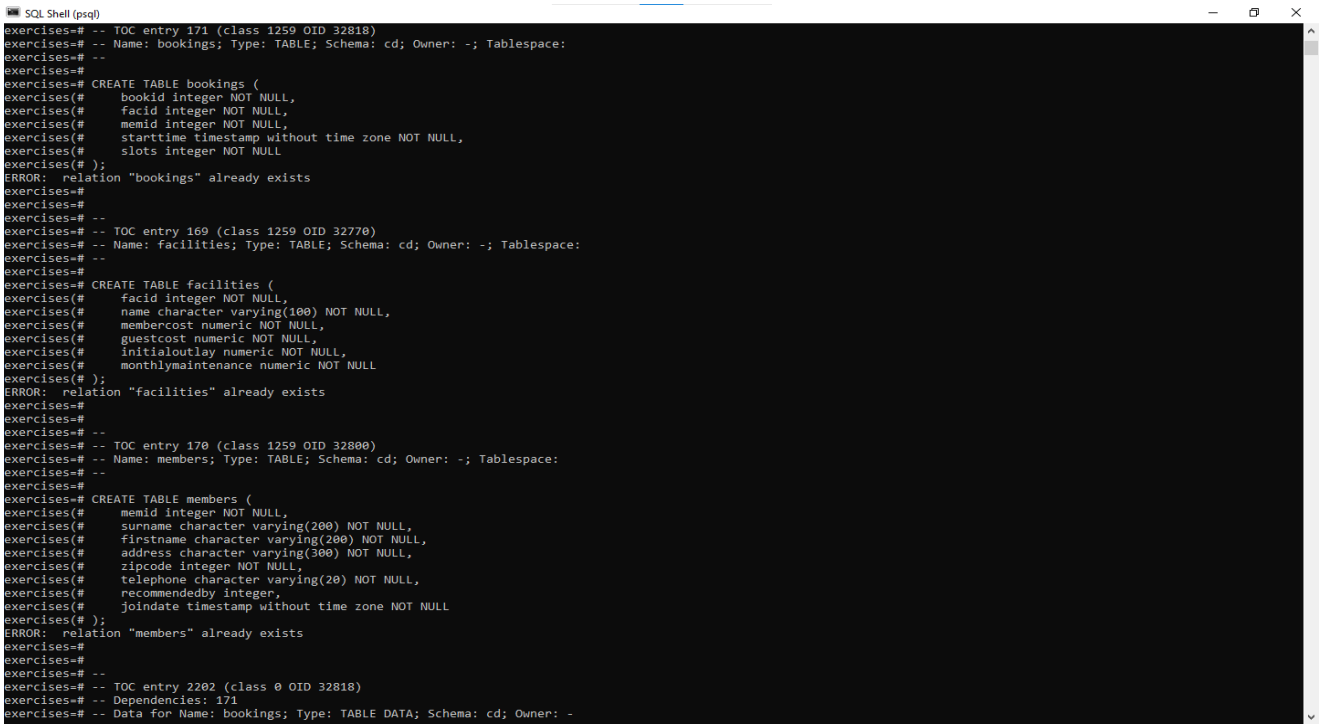
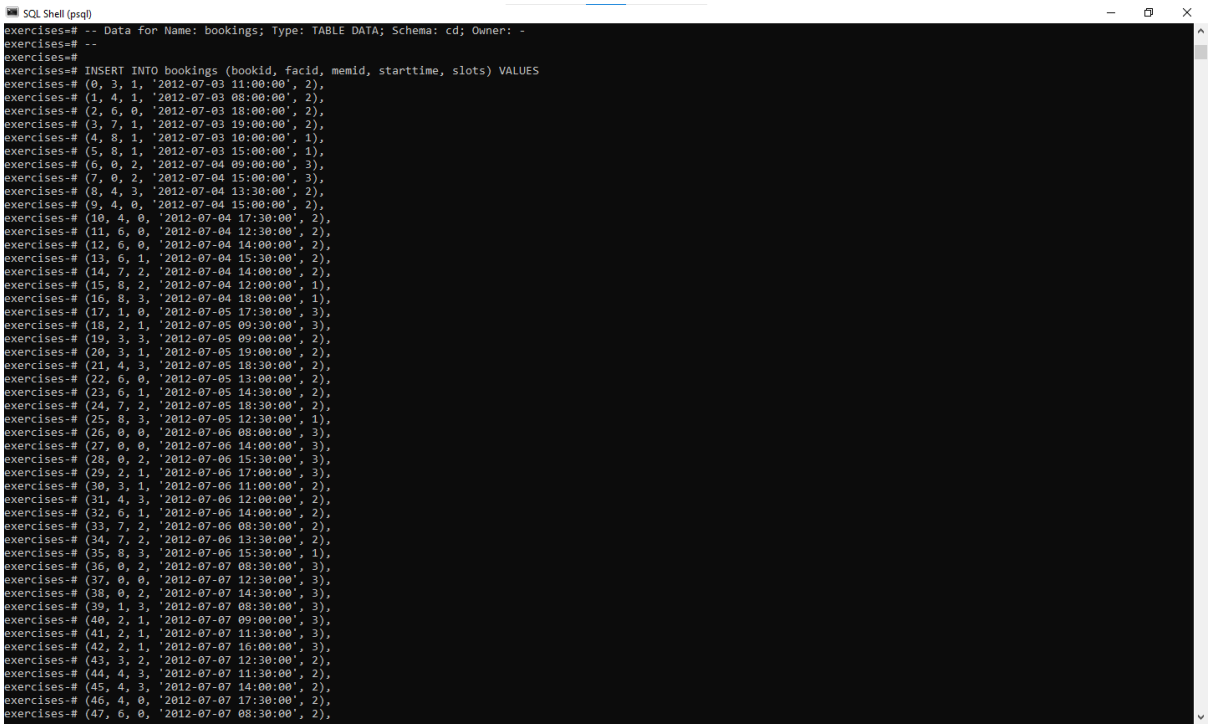
PostgreExercisesAssignment

First I insert clubdata file:

ScreenShots:






SQL Shell (psql)
exercises=# -- Data for Name: bookings; Type: TABLE DATA; Schema: cd; Owner: -
exercises=# --
exercises=#
exercises=# INSERT INTO bookings (bookid, facid, memid, starttime, slots) VALUES
exercises-# (0, 3, 1, '2012-07-03 11:00:00', 2),
exercises-# (1, 4, 1, '2012-07-03 08:00:00', 2),
exercises-# (2, 6, 0, '2012-07-03 18:00:00', 2),
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exercises-# (7, 0, 2, '2012-07-04 15:00:00', 3),
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exercises-# (14, 7, 2, '2012-07-04 14:00:00', 2),
exercises-# (15, 8, 2, '2012-07-04 12:00:00', 1),
exercises-# (16, 8, 3, '2012-07-04 18:00:00', 1),
exercises-# (17, 1, 0, '2012-07-05 17:30:00', 3),
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exercises-# (25, 8, 3, '2012-07-05 12:30:00', 1),
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exercises-# (28, 0, 2, '2012-07-06 15:30:00', 3),
exercises-# (29, 2, 1, '2012-07-06 17:00:00', 3),
exercises-# (30, 3, 1, '2012-07-06 11:00:00', 2),
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exercises-# (32, 6, 1, '2012-07-06 14:00:00', 2),
exercises-# (33, 7, 2, '2012-07-06 08:30:00', 2),
exercises-# (34, 7, 2, '2012-07-06 13:30:00', 2),
exercises-# (35, 8, 3, '2012-07-06 15:30:00', 1),
exercises-# (36, 0, 2, '2012-07-07 08:30:00', 3),
exercises-# (37, 0, 0, '2012-07-07 12:30:00', 3),
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exercises-# (41, 2, 1, '2012-07-07 11:30:00', 3),
exercises-# (42, 2, 1, '2012-07-07 16:00:00', 3),
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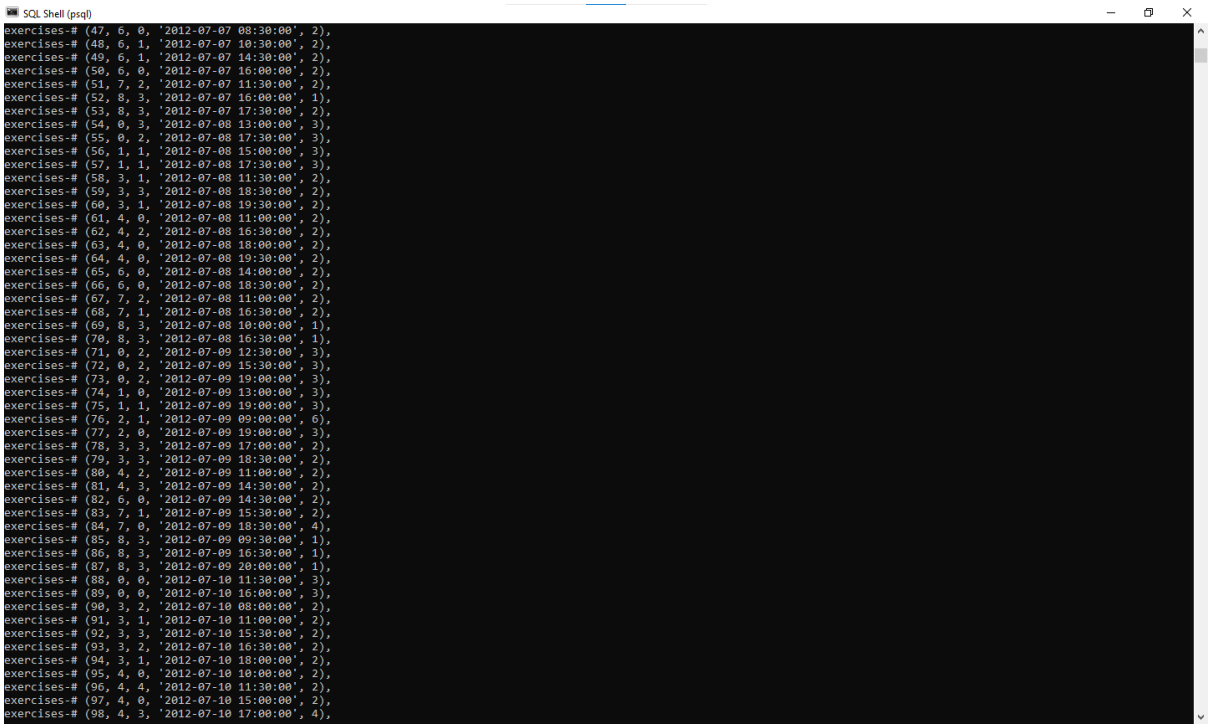
SQL Shell (psql)
exercises-# (47, 6, 0, '2012-07-07 08:30:00', 2),
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exercises-# (55, 0, 2, '2012-07-08 17:30:00', 3),
exercises-# (56, 1, 1, '2012-07-08 15:00:00', 3),
exercises-# (57, 1, 1, '2012-07-08 17:30:00', 3),
exercises-# (58, 3, 1, '2012-07-08 11:30:00', 2),
exercises-# (59, 3, 3, '2012-07-08 18:30:00', 2),
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exercises-# (61, 4, 0, '2012-07-08 11:00:00', 2),
exercises-# (62, 4, 2, '2012-07-08 16:30:00', 2),
exercises-# (63, 4, 0, '2012-07-08 18:00:00', 2),
exercises-# (64, 4, 0, '2012-07-08 19:30:00', 2),
exercises-# (65, 6, 0, '2012-07-08 14:00:00', 2),
exercises-# (66, 6, 0, '2012-07-08 18:30:00', 2),
exercises-# (67, 7, 2, '2012-07-08 11:00:00', 2),
exercises-# (68, 7, 1, '2012-07-08 16:30:00', 2),
exercises-# (69, 8, 3, '2012-07-08 10:00:00', 1),
exercises-# (70, 8, 3, '2012-07-08 16:30:00', 1),
exercises-# (71, 0, 2, '2012-07-09 12:30:00', 3),
exercises-# (72, 0, 2, '2012-07-09 15:30:00', 3),
exercises-# (73, 0, 2, '2012-07-09 19:00:00', 3),
exercises-# (74, 1, 0, '2012-07-09 13:00:00', 3),
exercises-# (75, 1, 1, '2012-07-09 19:00:00', 3),
exercises-# (76, 2, 1, '2012-07-09 09:00:00', 6),
exercises-# (77, 2, 0, '2012-07-09 19:00:00', 3),
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exercises-# (79, 3, 3, '2012-07-09 18:30:00', 2),
exercises-# (80, 4, 2, '2012-07-09 11:00:00', 2),
exercises-# (81, 4, 3, '2012-07-09 14:30:00', 2),
exercises-# (82, 6, 0, '2012-07-09 14:30:00', 2),
exercises-# (83, 7, 1, '2012-07-09 15:30:00', 2),
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exercises-# (85, 8, 3, '2012-07-09 09:30:00', 1),
exercises-# (86, 8, 3, '2012-07-09 16:30:00', 1),
exercises-# (87, 8, 3, '2012-07-09 20:00:00', 1),
exercises-# (88, 0, 0, '2012-07-10 11:30:00', 3),
exercises-# (89, 0, 0, '2012-07-10 16:00:00', 3),
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exercises-# (93, 3, 2, '2012-07-10 16:30:00', 2),
exercises-# (94, 3, 1, '2012-07-10 18:00:00', 2),
exercises-# (95, 4, 0, '2012-07-10 10:00:00', 2),
exercises-# (96, 4, 4, '2012-07-10 11:30:00', 2),
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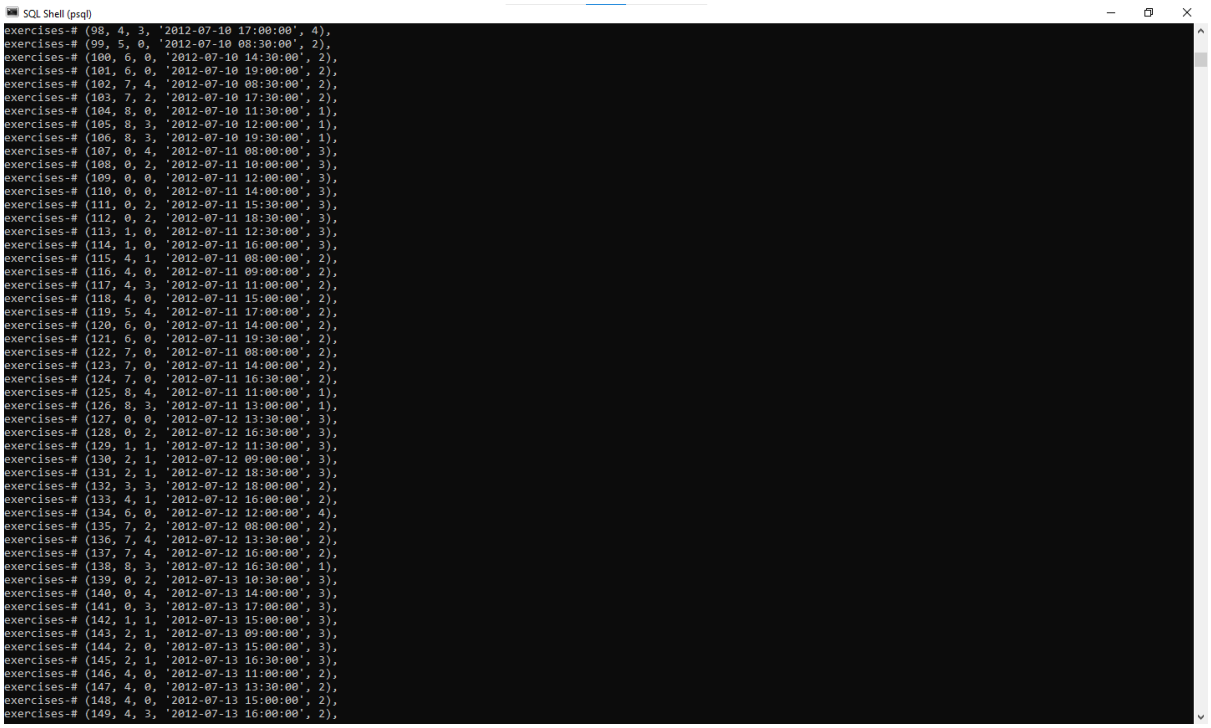

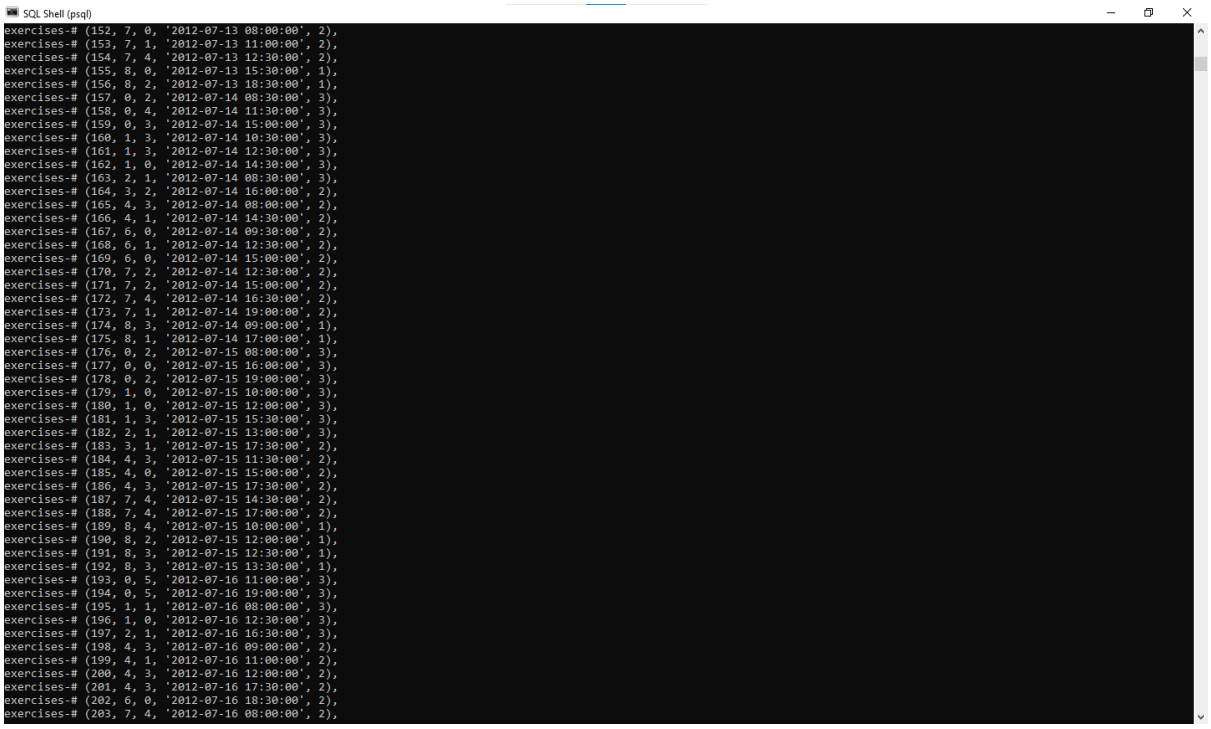

To Choose Database Exercise:

```
postgres=# \c exercises
You are now connected to database "exercises" as user "postgres".
exercises=# _
```

Simple SQL Queries

1.Retrieve everything from a table

Query: Select * from facilities

SQLOUTPUT:

```
exercises=# select * from facilities;
 facid |      name       | membercost | guestcost | initialoutlay | monthlymaintenance
-------+-----------------+------------+-----------+---------------+--------------------
     0 | Tennis Court 1  |          5 |        25 |         10000 |                200
     1 | Tennis Court 2  |          5 |        25 |          8000 |                200
     2 | Badminton Court |          0 |      15.5 |          4000 |                 50
     3 | Table Tennis    |          0 |         5 |           320 |                 10
     4 | Massage Room 1  |         35 |        80 |          4000 |               3000
     5 | Massage Room 2  |         35 |        80 |          4000 |               3000
     6 | Squash Court    |        3.5 |      17.5 |          5000 |                 80
     7 | Snooker Table   |          0 |         5 |           450 |                 15
     8 | Pool Table      |          0 |         5 |           400 |                 15
(9 rows)
```

2.Retrieve specific columns from a table

Query: select name, membercost from facilities;

SQLOUTPUT:

```
exercises=# select name, membercost from facilities;
      name       | membercost
-----------------+------------
 Tennis Court 1  |          5
 Tennis Court 2  |          5
 Badminton Court |          0
 Table Tennis    |          0
 Massage Room 1  |         35
 Massage Room 2  |         35
 Squash Court    |        3.5
 Snooker Table   |          0
 Pool Table      |          0
(9 rows)
```

3.Control which rows are retrieved

Query: select * from facilities where membercost > 0;

SQLOUTPUT:

```
exercises=# select * from facilities where membercost > 0;
 facid |      name      | membercost | guestcost | initialoutlay | monthlymaintenance
-------+----------------+------------+-----------+---------------+--------------------
     0 | Tennis Court 1 |          5 |        25 |         10000 |                200
     1 | Tennis Court 2 |          5 |        25 |          8000 |                200
     4 | Massage Room 1 |         35 |        80 |          4000 |               3000
     5 | Massage Room 2 |         35 |        80 |          4000 |               3000
     6 | Squash Court   |        3.5 |      17.5 |          5000 |                 80
(5 rows)


exercises=#
```

4.Control which rows are retrieved - part 2

Query: select facid, name, membercost, monthlymaintenance from facilities where membercost > 0 and (membercost < monthlymaintenance/50.0);

SQLOUTPUT:

```
exercises=# select facid, name, membercost, monthlymaintenance from facilities where membercost > 0 and (membercost < monthlymaintenance/50.0);
 facid |      name      | membercost | monthlymaintenance
-------+----------------+------------+--------------------
     4 | Massage Room 1 |         35 |               3000
     5 | Massage Room 2 |         35 |               3000
(2 rows)


exercises=#
```

5.Basic string searches

Query: select * from facilities where name like '%Tennis%';

SQLOUTPUT:

```
exercises=# select * from facilities where name like '%Tennis%';
 facid |      name      | membercost | guestcost | initialoutlay | monthlymaintenance
-------+----------------+------------+-----------+---------------+--------------------
     0 | Tennis Court 1 |          5 |        25 |         10000 |                200
     1 | Tennis Court 2 |          5 |        25 |          8000 |                200
     3 | Table Tennis   |          0 |         5 |           320 |                 10
(3 rows)
```

6.Matching against multiple possible values

Query: select * from facilities where facid in (1,5);

SQLOUTPUT:

```
exercises=# select * from facilities where facid in (1,5);
 facid |      name      | membercost | guestcost | initialoutlay | monthlymaintenance
-------+----------------+------------+-----------+---------------+--------------------
     1 | Tennis Court 2 |          5 |        25 |          8000 |                200
     5 | Massage Room 2 |         35 |        80 |          4000 |               3000
(2 rows)
```

7.Classify results into buckets

Query: select name, case when (monthlymaintenance > 100) then 'expensive' else 'cheap' end as cost from facilities;

SQLOUTPUT:

```
exercises=# select name, case when (monthlymaintenance > 100) then 'expensive' else 'cheap' end as cost from facilities;
      name       |   cost
-----------------+-----------
 Tennis Court 1  | expensive
 Tennis Court 2  | expensive
 Badminton Court | cheap
 Table Tennis    | cheap
 Massage Room 1  | expensive
 Massage Room 2  | expensive
 Squash Court    | cheap
 Snooker Table   | cheap
 Pool Table      | cheap
(9 rows)
```

8.Working with dates

Query: select memid, surname, firstname, joindate from members where joindate >= '2012-09-01';

SQLOUTPUT:

```
exercises=# select memid, surname, firstname, joindate from members where joindate >= '2012-09-01';
 memid |      surname      | firstname |      joindate
-------+-------------------+-----------+---------------------
    24 | Sarwin            | Ramnaresh | 2012-09-01 08:44:42
    26 | Jones             | Douglas   | 2012-09-02 18:43:05
    27 | Rumney            | Henrietta | 2012-09-05 08:42:35
    28 | Farrell           | David     | 2012-09-15 08:22:05
    29 | Worthington-Smyth | Henry     | 2012-09-17 12:27:15
    30 | Purview           | Millicent | 2012-09-18 19:04:01
    33 | Tupperware        | Hyacinth  | 2012-09-18 19:32:05
    35 | Hunt              | John      | 2012-09-19 11:32:45
    36 | Crumpet           | Erica     | 2012-09-22 08:36:38
    37 | Smith             | Darren    | 2012-09-26 18:08:45
(10 rows)
```

9.Removing duplicates, and ordering results

Query: select distinct surname from members order by surname limit 10;

SQLOUTPUT:

```
exercises=# select distinct surname from members order by surname limit 10;
 surname
---------
 Bader
 Baker
 Boothe
 Butters
 Coplin
 Crumpet
 Dare
 Farrell
 Genting
 GUEST
(10 rows)
```

10.Combining results from multiple queries

Query: select surname from members union select name from facilities;

SQLOUTPUT:

```
exercises=# select surname from members union select name from facilities;
      surname
-------------------
 Hunt
 Farrell
 Tennis Court 2
 Table Tennis
 Dare
 Rownam
 GUEST
 Badminton Court
 Smith
 Tupperware
 Owen
 Worthington-Smyth
 Butters
 Rumney
 Tracy
 Crumpet
 Purview
 Massage Room 2
 Sarwin
 Baker
 Pool Table
 Snooker Table
 Jones
 Coplin
 Mackenzie
 Boothe
 Joplette
 Stibbons
 Squash Court
 Tennis Court 1
 Pinker
 Genting
 Bader
 Massage Room 1
(34 rows)
```

11.Simple aggregation

Query: select max(joindate) as latest from members;

SQLOUTPUT:

```
exercises=# select max(joindate) as latest from members;
       latest
---------------------
 2012-09-26 18:08:45
(1 row)
```

12.More aggregation

Query: select firstname, surname, joindate from members order by joindate desc limit 1;

SQLOUTPUT:

```
exercises=# select firstname, surname, joindate from members order by joindate desc limit 1;
 firstname | surname |      joindate
-----------+---------+---------------------
 Darren    | Smith   | 2012-09-26 18:08:45
(1 row)
```