

# INFORMATION COMMUNICATION TECHNOLOGIES

Project title: Chess Events Organization System

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1)

What is the purpose of the database? Why is it needed? What should it do?

The main purpose of any database management system is actually making the data that accessible as it could be possible, by the database of Chess Events Organization we can clearly see what kind of entities are involved, also average price, ratings to calculate coefficient of a tournament are easily seen by using some of the useful functions in PostgreSQL.

Who are the users and what are their information needs?

Users of our chess event organization database are companies which would like to organize chess evenings, competitions, or just a relaxing activities. The information needs are mostly about ratings and what type of chess variations they would like to choose on evenings.

What are the problems that the system should solve?

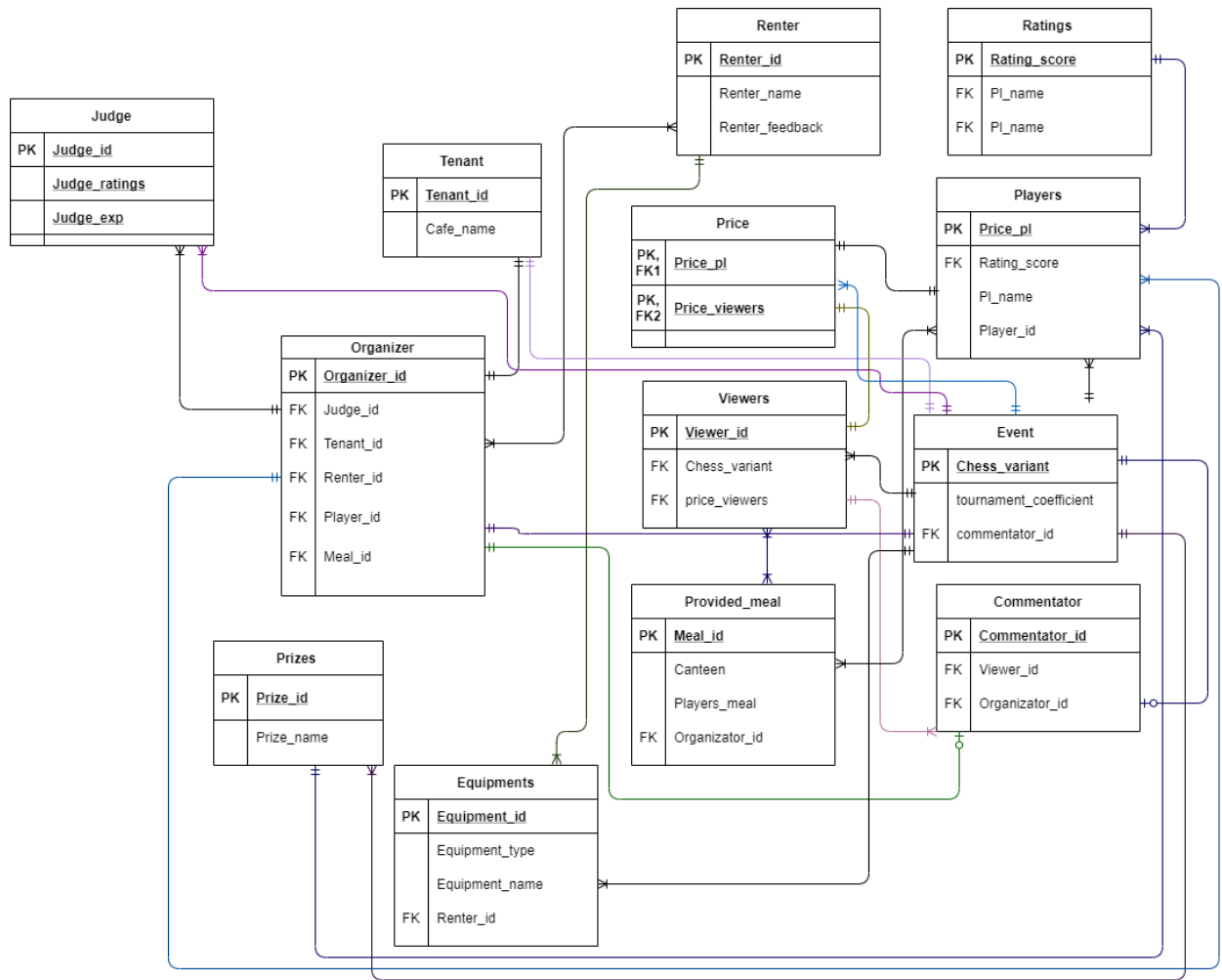
Problems with data loss and being able to work with a quantity of viewers, commentators they most prefer, players playing different variations at different time and other massive entities as almost all of them somehow are linked with each other.

What input data is available to the database?

In this database ratings, price, player names, prizes and other information regarding personal data, canteen menu is free to supplement.

What kind of information should be stored in the database?

All information about entities involved in one event organization: they have own attributes, relationships with other entities, and foreign keys.



## Business rules

1. Judge can conduct only one organizer, while organizer may conduct one or several judges at the same time.
2. Tenant may lend only one cafe to organizer and organizer can have only one tenant lending café per event
3. Organizers may have one or several renters renting equipment for event as well as the renters themselves.
4. Either viewers or players are provided with several meals. Meal is provided to several viewers and players, too.
5. Although renter have one or several equipment, equipment have only one owner.
6. There could be one or no commentator at all at the event, and commentator can attend no more than one event.
7. There is one price suggested for viewers as well as for players, and players are allowed to pay once per event.
8. There could be one prize for players, and players are also allowed to have one prize.
9. One organizer is organizing one event and event could have one organizer per event.
10. Players may be scored to one rating and one particular rating could be scored by one or several players.
11. Players and viewers attend one event at time while event may have one or several viewers.
12. Commentator can contact one organizer at time and organizer may contact one or no commentator during one event.
13. Equipments allowed to be used in one event and during event there could be many equipments used.

## 3) Creating table and database

### DML with the screenshots

```
create table judge (  
    judge_id decimal(12) constraint judge_id_cons primary key,  
    judge_exp decimal(12),  
    jugde_ratings int  
);
```

```
create table tenant (  
    tenant_id decimal(12) primary key,  
    cafe_name varchar(12)  
);
```

```
create table renter (  
    renter_id decimal(12) primary key,  
    renter_name varchar(12),  
    renter_feedback decimal(12)  
);
```

```
create table ratings (  
    rating_score decimal(12) constraint rating_score_cons primary  
key  
);
```

```

create table players (
player_id decimal(12),
    price_pl int primary key,
    pl_name varchar
);

create table venue_menu (
chess_variant varchar(12) constraint chess_variant_cons primary
key,
    tournament_coefficient decimal(64)
);

create table viewers (
    price_viewers int primary key,
viewer_id decimal(12)
);

create table provided_meal (
meal_id decimal(12) not null primary key,
    canteen varchar(12),
    players_meal varchar(12)
);

create table prizes(
prize_id decimal(12) constraint prize_id_cons primary key,
    prize_name varchar (12)
);

create table equipments (
equipment_id decimal(12) constraint equipment_id_cons primary
key,
    equipment_type char(5),
    equipment_name varchar(12),
    renter_id decimal(12),
    foreign key (renter_id) references renter (renter_id)
);

create table commentator(
commentator_id decimal(12) constraint commmentator_id_cons
primary key,
    viewer_id decimal(12),
    foreign key (viewer_id) references viewers (viewer_id),
    commentator_exp decimal(12)
);

create table organizer (
organizer_id decimal(12) constraint organizer_id_cons primary
key,
    judge_id decimal(12),
    foreign key (judge_id) references judge(judge_id),
    tenant_id decimal(12),
    foreign key (tenant_id) references tenant(tenant_id),

```

```
renter_id decimal(12),
foreign key (renter_id) references renter (renter_id),
price_pl int,
foreign key (price_pl) references players (price_pl),
meal_id decimal(12),
foreign key (meal_id) references provided_meal (meal_id),
prize_id decimal(12),
foreign key (prize_id) references prizes (prize_id),
commentator_id decimal(12),
foreign key (commentator_id) references commentator
(commentator_id)
);
```

Query EditorQuery History

```

55 );
56
57 create table commentator(
58 commentator_id decimal(12) constraint commentator_id_cons primary key,
59 viewer_id decimal(12),
60 foreign key (viewer_id) references viewers (viewer_id),
61 commentator_exp decimal(12)
62 );
63
64 create table organizer (
65 organizer_id decimal(12) constraint organizer_id_cons primary key,
66 judge_id decimal(12),
67 foreign key (judge_id) references judge(judge_id).

```

Data OutputExplainMessagesNotifications

CREATE TABLE

Query returned successfully in 659 msec.

✓ Query returned successfully in 659 msec.

Tables (12)

commentator

Columns (3)

commentator\_id

viewer\_id

commentator\_exp

Constraints (2)

commentator\_viewer\_id\_fkey

commentator\_id\_cons

Indexes

RLS Policies

Rules

Triggers

equipments

Columns (4)

equipment\_id

equipment\_type

equipment\_name

renter\_id

Constraints (2)

equipment\_id\_cons

judge

Columns (3)

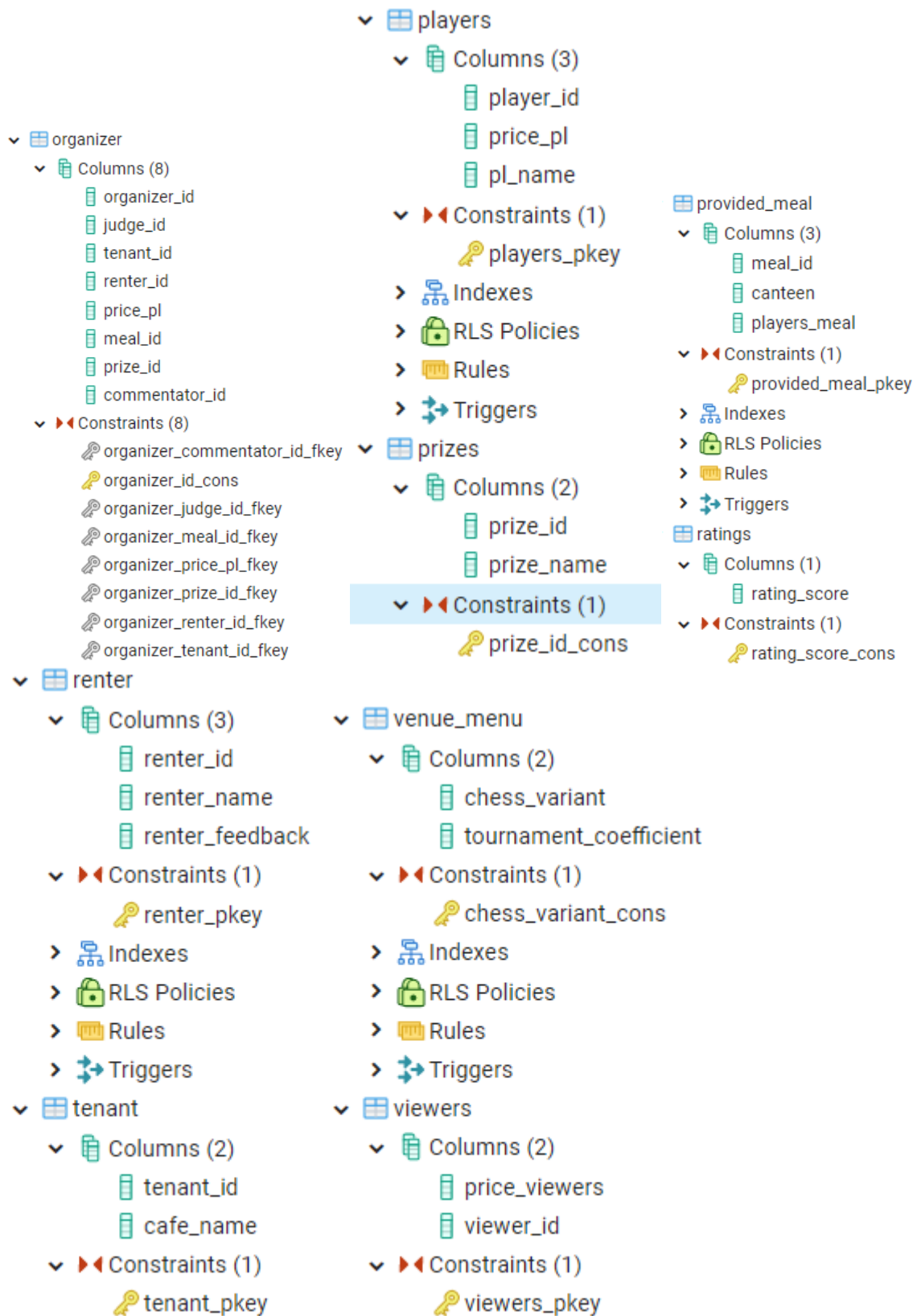
judge\_id

judge\_exp

judge\_ratings

Constraints (1)

judge\_id\_cons



#### 4) Alter table statements

ALTER TABLE viewers

ADD CONSTRAINT price\_viewers\_cons\_uk UNIQUE (price\_viewers);



Query Editor
Query History

1 **ALTER TABLE** viewers  
2 **ADD CONSTRAINT** price\_viewers\_cons\_uk **UNIQUE** (price\_viewers);

Data Output
Explain
Messages
Notifications

ALTER TABLE  
  
Query returned successfully in 219 msec.

viewers

Columns (2)

price\_viewers

viewer\_id

Constraints (2)

price\_viewers\_cons\_uk

viewers\_pkey

Now we can create a new table with all prices for players and viewers.

```
create table price (
price_pl int,
price_viewers int,
primary key (price_pl, price_viewers),
foreign key (price_pl) references players (price_pl),
foreign key (price_viewers) references viewers (price_viewers)
);
select * from price;
```

price_pl [PK] integer	price_viewers [PK] integer

```
alter table venue_menu rename to chess_event;
select * from chess_event;
```

1 **alter table** venue\_menu **rename to** chess\_event;  
2 **select \* from** chess\_event;

Data Output	Explain	Messages	Notifications
chess_variant [PK] character varying (12)		tournament_coefficient numeric (64)	

```
ALTER TABLE chess_event ALTER COLUMN tournament_coefficient type
int;
select * from chess_event;
```

1 **ALTER TABLE** chess\_event **ALTER COLUMN** tournament\_coefficient **type** int;  
2 **select \* from** chess\_event;

Data Output	Explain	Messages	Notifications
chess_variant [PK] character varying (12)		tournament_coefficient integer	

Constraints (7)

- organizer\_commentator\_id\_fkey
- organizer\_id\_cons
- organizer\_judge\_id\_fkey
- organizer\_meal\_id\_fkey
- organizer\_price\_id\_fkey
- organizer\_renter\_id\_fkey
- organizer\_tenant\_id\_fkey

Query Editor

Query History

1 ALTER TABLE organizer DROP CONSTRAINT organizer\_price\_pl\_fkey;

Data Output Explain Messages Notifications

ALTER TABLE

Query returned successfully in 361 msec.

```
ALTER TABLE organizer DROP CONSTRAINT organizer_price_pl_fkey;
```

Constraints (2)

- players\_pkey
- price\_pl\_cons

Indexes

RLS Policies

Rules

Triggers

price

1 alter table players

2 add constraint price\_pl\_cons unique (price\_pl);

Data Output Explain Messages Notifications

ALTER TABLE

Query returned successfully in 146 msec.

```
price
alter table players
add constraint price_pl_cons unique (price_pl);
```

### 5) Update, Delete, and data insertion

```
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(1, 1, 1593);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(2, 22, 1126);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(3, 10, 1050);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(4, 4, 1749);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(5, 5, 1568);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(6, 4, 1489);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(7, 1, 1840);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(8, 17, 1840);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(9, 18, 1452);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(10, 19, 2190);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(11, 16, 1927);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(12, 7, 2114);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(13, 6, 1813);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(14, 18, 1575);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(15, 27, 1904);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(16, 8, 1528);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(17, 25, 1229);
```

```

insert into judge (judge_id, judge_exp, jugde_ratings ) values
(18, 15, 1975);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(19, 5, 1741);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(20, 3, 1769);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(21, 20, 1349);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(22, 22, 1952);
insert into judge (judge_id, judge_exp, jugde_ratings ) values
(23, 28, 1300);

```

	<b>judge_id</b> [PK] numeric (12)	<b>judge_exp</b> numeric (12)	<b>jugde_ratings</b> integer
1	1	1	1593
2	2	22	1126
3	3	10	1050
4	4	4	1749
5	5	5	1568
6	6	4	1489
7	7	1	1840
8	8	17	1840
9	9	18	1452
10	10	19	2190

```

insert into tenant (tenant_id , cafe_name ) values (1, 'Friesen
Group');
insert into tenant (tenant_id , cafe_name ) values (2,
'Breitenberg and Sons');
insert into tenant (tenant_id , cafe_name ) values (3, 'Rohan
Inc');
insert into tenant (tenant_id , cafe_name ) values (4, 'Wiza-
Homenick');
insert into tenant (tenant_id , cafe_name ) values (5,
'Goodwin, Morissette and Daniel');
insert into tenant (tenant_id , cafe_name ) values (6,
'Carroll, Considine and Bednar');
insert into tenant (tenant_id , cafe_name ) values (7, 'Zemlak-
Schoen');
insert into tenant (tenant_id , cafe_name ) values (8, 'Schumm
Group');
insert into tenant (tenant_id , cafe_name ) values (9, 'Lang,
McLaughlin and Champlin');
insert into tenant (tenant_id , cafe_name ) values (10,
'Runolfsson-Corwin');
insert into tenant (tenant_id , cafe_name ) values (11,
'Macejkovic, Quitzon and Rodriguez');

```

```

insert into tenant (tenant_id , cafe_name ) values (12, 'King,
Hammes and Zemlak');
insert into tenant (tenant_id , cafe_name ) values (13,
'Murray-Kub');
insert into tenant (tenant_id , cafe_name ) values (14,
'Hoeger-Parker');
insert into tenant (tenant_id , cafe_name ) values (15,
'Kshlerin-Bechtelar');
insert into tenant (tenant_id , cafe_name ) values (16,
'Osinski-McKenzie');
insert into tenant (tenant_id , cafe_name ) values (17, 'Russel
Group');
insert into tenant (tenant_id , cafe_name ) values (18,
'Gerhold Group');
insert into tenant (tenant_id , cafe_name ) values (19, 'Marks-
Stokes');
insert into tenant (tenant_id , cafe_name ) values (20,
'Padberg-Kling');
insert into tenant (tenant_id , cafe_name ) values (21,
'Bergstrom Inc');
insert into tenant (tenant_id , cafe_name ) values (22,
'Pouros, Grady and Beier');
insert into tenant (tenant_id , cafe_name ) values (23,
'Jacobi-Conn');

```

	Data Output	Explain	Messages	Notifications
	tenant_id [PK] numeric (12)		cafe_name character varying (12)	
1		1	Friesen	
2		2	Breitenberg	
3		3	Rohan Inc	
4		4	Wiza-Home	
5		5	Goodwin	
6		6	Carroll	
7		7	Zemlak	
8		8	Schumm	
9		9	Lang	
10		10	Runolfsson	
11		11	Maceikovic	

```

insert into renter (renter_id , renter_name ,
renter_feedback) values (1, 'Babara', 3);
insert into renter (renter_id , renter_name ,
renter_feedback) values (2, 'Thekla', 1);
insert into renter (renter_id , renter_name ,
renter_feedback) values (3, 'Kelsi', 3);
insert into renter (renter_id , renter_name ,
renter_feedback) values (4, 'Harald', 4);

```

```

insert into renter (renter_id , renter_name ,
renter_feedback) values (5, 'Tyson', 5);
insert into renter (renter_id , renter_name ,
renter_feedback) values (6, 'Manda', 5);
insert into renter (renter_id , renter_name ,
renter_feedback) values (7, 'Muriel', 2);
insert into renter (renter_id , renter_name ,
renter_feedback) values (8, 'Abbie', 3);
insert into renter (renter_id , renter_name ,
renter_feedback) values (9, 'Leodora', 2);
insert into renter (renter_id , renter_name ,
renter_feedback) values (10, 'Natka', 2);

```

Data Output	Explain	Messages	Notifications
	renter_id [PK] numeric (12)	renter_name character varying (12)	renter_feedback numeric (12)
1	1	Babara	3
2	2	Thekla	1
3	3	Kelsi	3
4	4	Harald	4
5	5	Tyson	5
6	6	Manda	5
7	7	Muriel	2
8	8	Abbie	3
9	9	Leodora	2
10	10	Natka	

✓ Success

```

insert into ratings (rating_score ) values (1198);
insert into ratings (rating_score ) values (1176);
insert into ratings (rating_score ) values (1180);
insert into ratings (rating_score ) values (1293);
insert into ratings (rating_score ) values (1382);
insert into ratings (rating_score ) values (1491);
insert into ratings (rating_score ) values (1596);
insert into ratings (rating_score ) values (1362);
insert into ratings (rating_score ) values (1766);
insert into ratings (rating_score ) values (1888);
insert into ratings (rating_score ) values (1780);
insert into ratings (rating_score ) values (1777);
insert into ratings (rating_score ) values (1778);
insert into ratings (rating_score ) values (1867);
insert into ratings (rating_score ) values (1597);
insert into ratings (rating_score ) values (1472);
insert into ratings (rating_score ) values (1371);
insert into ratings (rating_score ) values (1880);
insert into ratings (rating_score ) values (1476);

```

```

insert into ratings (rating_score ) values (1678);
insert into ratings (rating_score ) values (1562);
insert into ratings (rating_score ) values (1100);
insert into ratings (rating_score ) values (1486);

```

Data Output	Explain	Me
	<b>rating_score</b> [PK] numeric (12)	
1	1198	
2	1176	
3	1180	
4	1293	
5	1382	
6	1491	
7	1596	
8	1362	
9	1766	
10	1888	
11	1780	

```

insert into players (player_id , price_pl , pl_name ) values
(1, 210, 'Cooper');
insert into players (player_id , price_pl , pl_name ) values
(2, 220, 'Kipp');
insert into players (player_id , price_pl , pl_name ) values
(3, 230, 'Barbabra');
insert into players (player_id , price_pl , pl_name ) values
(4, 204, 'Toby');
insert into players (player_id , price_pl , pl_name ) values
(5, 203, 'Ethelred');
insert into players (player_id , price_pl , pl_name ) values
(6, 288, 'Giacopo');
insert into players (player_id , price_pl , pl_name ) values
(7, 211, 'Zola');
insert into players (player_id , price_pl , pl_name ) values
(8, 212, 'Berget');
insert into players (player_id , price_pl , pl_name ) values
(9, 234, 'Constanta');
insert into players (player_id , price_pl , pl_name ) values
(10, 256, 'Chad');
insert into players (player_id , price_pl , pl_name ) values
(11, 219, 'Lorie');
insert into players (player_id , price_pl , pl_name ) values
(12, 290, 'Phillie');
insert into players (player_id , price_pl , pl_name ) values
(13, 293, 'Avrom');
insert into players (player_id , price_pl , pl_name ) values
(14, 265, 'Dodie');

```

```

insert into players (player_id , price_pl , pl_name ) values
(15, 278, 'Robbie');
insert into players (player_id , price_pl , pl_name ) values
(16, 232, 'Kelvin');
insert into players (player_id , price_pl , pl_name ) values
(17, 233, 'Vivianne');
insert into players (player_id , price_pl , pl_name ) values
(18, 2384, 'Morlee');
insert into players (player_id , price_pl , pl_name ) values
(19, 235, 'Rowney');
insert into players (player_id , price_pl , pl_name ) values
(20, 236, 'Aloin');
insert into players (player_id , price_pl , pl_name ) values
(21, 237, 'Mellisa');
insert into players (player_id , price_pl , pl_name ) values
(22, 238, 'Hali');
insert into players (player_id , price_pl , pl_name ) values
(23, 239, 'Kali');

```

Data Output	Explain	Messages	Notifications
	player_id numeric (12)	price_pl [PK] integer	pl_name character varying
1	1	210	Cooper
2	2	220	Kipp
3	3	230	Barbabra
4	4	204	Toby
5	5	203	Ethelred
6	6	288	Giacopo
7	7	211	Zola
8	8	212	Berget
9	9	234	Constanta
10	10	256	Chad
11	11	219	Lorie

```

insert into chess_event (chess_variant , tournament_coefficient
)
values ('bullett', 2.54),
('blitzz', 4.73),
('classicc', 2.33),
('chordd', 3.91),
('classic', 1.45),
('racingkingss', 4.92),
('blitz', 4.14),
('racingkings', 3.51),
('blitzzz', 3.88),
('classiccc', 3.43),
('bullettt', 2.74),
('classiic', 2.95),

```

```
('blittz', 1.21),
('bullet', 3.38);
```

	Data Output	Explain	Messages	Notifications
	chess_variant [PK] character varying (12)		tournament_coefficient integer	
1	bullett			3
2	blitzz			5
3	classicc			2
4	chordd			4
5	classic			1
6	racingkingss			5
7	blitz			4
8	racingkings			4
9	blitzzz			4
10	classiccc			3

```
insert into viewers (viewer_id , price_viewers ) values (1,
123);
insert into viewers (viewer_id , price_viewers ) values (2,
122);
insert into viewers (viewer_id , price_viewers ) values (3,
121);
insert into viewers (viewer_id , price_viewers ) values (4,
120);
insert into viewers (viewer_id , price_viewers ) values (5,
119);
insert into viewers (viewer_id , price_viewers ) values (6,
118);
insert into viewers (viewer_id , price_viewers ) values (7,
117);
insert into viewers (viewer_id , price_viewers ) values (8,
116);
insert into viewers (viewer_id , price_viewers ) values (9,
115);
insert into viewers (viewer_id , price_viewers ) values (10,
114);
insert into viewers (viewer_id , price_viewers ) values (11,
113);
insert into viewers (viewer_id , price_viewers ) values (12,
112);
insert into viewers (viewer_id , price_viewers ) values (13,
111);
insert into viewers (viewer_id , price_viewers ) values (14,
110);
insert into viewers (viewer_id , price_viewers ) values (15,
109);
```



```

insert into viewers (viewer_id , price_viewers ) values (16,
108);
insert into viewers (viewer_id , price_viewers ) values (17,
107);
insert into viewers (viewer_id , price_viewers ) values (18,
106);
insert into viewers (viewer_id , price_viewers ) values (19,
105);
insert into viewers (viewer_id , price_viewers ) values (20,
104);
insert into viewers (viewer_id , price_viewers ) values (21,
103);
insert into viewers (viewer_id , price_viewers ) values (22,
102);
insert into viewers (viewer_id , price_viewers ) values (23,
101);

```

Data Output	Explain	Messages	Notifications
	price_viewers integer	viewer_id [PK] numeric (12)	
1	123		1
2	122		2
3	121		3
4	120		4
5	119		5
6	118		6
7	117		7
8	116		8
9	115		9
10	114		10
11	113		11

```

insert into provided_meal (meal_id , canteen , players_meal )
values (1, 'Baumbach', 'Wine');
insert into provided_meal (meal_id , canteen , players_meal )
values (2, 'King Inc', 'Bar ');
insert into provided_meal (meal_id , canteen , players_meal )
values (3, 'Ryan Inc', 'Spinach');
insert into provided_meal (meal_id , canteen , players_meal )
values (4, 'Purdy', 'Roe');
insert into provided_meal (meal_id , canteen , players_meal )
values (5, 'Flatley', 'Cake');
insert into provided_meal (meal_id , canteen , players_meal )
values (6, 'Wisoky', 'Truffle');
insert into provided_meal (meal_id , canteen , players_meal )
values (7, 'Mante', 'Winee');
insert into provided_meal (meal_id , canteen , players_meal )
values (8, 'Hahn', 'Marjoram');

```

```

insert into provided_meal (meal_id , canteen , players_meal )
values (9, 'Grant', 'Wine -');
insert into provided_meal (meal_id , canteen , players_meal )
values (10, 'Hayes', 'Dill');
insert into provided_meal (meal_id , canteen , players_meal )
values (11, 'Hammes', 'Beef');
insert into provided_meal (meal_id , canteen , players_meal )
values (12, 'Jones', 'Bread');
insert into provided_meal (meal_id , canteen , players_meal )
values (13, 'Nienow', 'Pheasants');
insert into provided_meal (meal_id , canteen , players_meal )
values (14, 'Marvin', 'Syrup');
insert into provided_meal (meal_id , canteen , players_meal )
values (15, 'Watsica', 'Cup');
insert into provided_meal (meal_id , canteen , players_meal )
values (16, 'Little', 'Cookie');
insert into provided_meal (meal_id , canteen , players_meal )
values (17, 'Flatley', 'Browning');
insert into provided_meal (meal_id , canteen , players_meal )
values (18, 'Barton', 'Juice');
insert into provided_meal (meal_id , canteen , players_meal )
values (19, 'Konopelski', 'Orange');
insert into provided_meal (meal_id , canteen , players_meal )
values (20, 'Lynch', 'Cheese');
insert into provided_meal (meal_id , canteen , players_meal )
values (21, 'Hilll', 'Veal');
insert into provided_meal (meal_id , canteen , players_meal )
values (22, 'Hudson', 'Crab');
insert into provided_meal (meal_id , canteen , players_meal )
values (23, 'Barrows', 'Compound');

```

Data Output	Explain	Messages	Notifications
	meal_id [PK] numeric (12)	canteen character varying (12)	players_meal character varying (12)
1		1 Baumbach	Wine
2		2 King Inc	Bar
3		3 Ryan Inc	Spinach
4		4 Purdy	Roe
5		5 Flatley	Cake
6		6 Wisoky	Truffle
7		7 Mante	Winee
8		8 Hahn	Marjoram
9		9 Grant	Wine -
10		10 Hayes	Dill
11		11 Hammes	Reef

✓ Successfully run

```

insert into prizes (prize_id , prize_name) values (1, 'coupon');
insert into prizes (prize_id , prize_name) values (2, 'coupon');
insert into prizes (prize_id , prize_name) values (3, 'coupon');
insert into prizes (prize_id , prize_name) values (4, 'medal');
insert into prizes (prize_id , prize_name) values (5, 'coupon');
insert into prizes (prize_id , prize_name) values (6, 'coupon');

```

```

insert into prizes (prize_id , prize_name) values (7, 'coupon');
insert into prizes (prize_id , prize_name) values (8, 'coupon');
insert into prizes (prize_id , prize_name) values (9, 'coupon');
insert into prizes (prize_id , prize_name) values (10,
'coupon');
insert into prizes (prize_id , prize_name) values (11, 'medal');
insert into prizes (prize_id , prize_name) values (12, 'medal');
insert into prizes (prize_id , prize_name) values (13, 'cup');
insert into prizes (prize_id , prize_name) values (14,
'coupon');
insert into prizes (prize_id , prize_name) values (15,
'coupon');
insert into prizes (prize_id , prize_name) values (16,
'coupon');
insert into prizes (prize_id , prize_name) values (17,
'coupon');
insert into prizes (prize_id , prize_name) values (18,
'coupon');
insert into prizes (prize_id , prize_name) values (19,
'coupon');
insert into prizes (prize_id , prize_name) values (20,
'coupon');
insert into prizes (prize_id , prize_name) values (21,
'coupon');
insert into prizes (prize_id , prize_name) values (22, 'medal');
insert into prizes (prize_id , prize_name) values (23,
'coupon');

```

Data Output	Explain	Messages	Notifications
	prize_id [PK] numeric (12)		prize_name character varying (12)
1		1	coupon
2		2	coupon
3		3	coupon
4		4	medal
5		5	coupon
6		6	coupon
7		7	coupon
8		8	coupon
9		9	coupon
10		10	coupon
11		11	medal

```

insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (1, 'ftg', 'board', 1);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (2, 'furnt', 'table', 2);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (3, 'ftg', 'pen', 3);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (4, 'ftg', 'clock', 4);

```

```

insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (5, 'ftg', 'board', 5);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (6, 'furnt', 'chair', 6);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (7, 'ftg', 'board', 7);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (8, 'ftg', 'clock', 8);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (9, 'ftg', 'pen', 9);
insert into equipments (equipment_id , equipment_type,
equipment_name, renter_id) values (10, 'ftg', 'clock', 10);
--"ftg" is for "for table game"
--"furnt" is for "furniture"

```

Data Output	Explain	Messages	Notifications
equipment_id [PK] numeric (12)	equipment_type character (5)	equipment_name character varying (12)	renter_id numeric (12)
1	1 ftg	board	1
2	2 furnt	table	2
3	3 ftg	pen	3
4	4 ftg	clock	4
5	5 ftg	board	5
6	6 furnt	chair	6
7	7 ftg	board	7
8	8 ftg	clock	8
9	9 ftg	pen	
10	10 ftg	clock	

✓ Successfully run. To

```

insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (1, 1, 10);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (2, 2, 18);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (3, 3, 19);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (4, 4, 22);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (5, 5, 26);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (6, 6, 29);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (7, 7, 23);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (8, 8, 14);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (9, 9, 20);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (10, 10, 21);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (11, 11, 25);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (12, 12, 28);

```

```

insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (13, 13, 27);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (14, 14, 26);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (15, 15, 13);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (16, 16, 19);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (17, 17, 14);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (18, 18, 29);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (19, 19, 16);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (20, 20, 22);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (21, 21, 29);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (22, 22, 15);
insert into commentator (commentator_id , viewer_id ,
commentator_exp ) values (23, 23, 24);

```










Data Output	Explain	Messages	Notifications
	commentator_id [PK] numeric (12)	viewer_id numeric (12)	commentator_exp numeric (12)
9	9	9	20
10	10	10	21
11	11	11	25
12	12	12	28
13	13	13	27
14	14	14	26
15	15	15	13
16	16	16	19
17	17	17	14
18	18	18	29

```

insert into organizer
(organizer_id, judge_id , tenant_id, renter_id,
price_pl, meal_id, prize_id, commentator_id)
values (1, 1, 1, 1, 215, 1, 1, 1),
(2, 2, 2, 2, 211, 2, 2, 2),
(3, 3, 3, 3, 218, 3, 3, 3),
(4, 4, 4, 4, 210, 4, 4, 4),
(5, 5, 5, 5, 208, 5, 5, 5),
(6, 6, 6, 6, 208, 6, 6, 6),
(7, 7, 7, 7, 204, 7, 7, 7),
(8, 8, 8, 8, 205, 8, 8, 8),

```

```
(9, 9, 9, 9, 212, 9, 9, 9),
(10, 10, 10, 10, 212, 10, 10, 10),
(11, 11, 11, 11, 215, 11, 11, 11),
(12, 12, 12, 12, 215, 12, 12, 12),
(13, 13, 13, 13, 210, 13, 13, 13),
(14, 14, 14, 14, 211, 14, 14, 14),
(15, 15, 15, 15, 209, 15, 15, 15),
(16, 16, 16, 16, 212, 16, 16, 16),
(17, 17, 17, 17, 208, 17, 17, 17),
(18, 18, 18, 18, 208, 18, 18, 18),
(19, 19, 19, 19, 208, 19, 19, 19),
(20, 20, 20, 20, 211, 20, 20, 20),
(21, 21, 21, 21, 213, 21, 21, 21),
(22, 22, 22, 22, 219, 22, 22, 22),
(23, 23, 23, 23, 201, 23, 23, 23);
```

Data Output		Explain	Messages	Notifications												
	organizer_id [PK] numeric (12)		judge_id numeric (12)		tenant_id numeric (12)		renter_id numeric (12)		price_pl integer		meal_id numeric (12)		prize_id numeric (12)		commentator_id numeric (12)	
1			1		1		1		210		1		1		1	
2			2		2		2		220		2		2		2	
3			3		3		3		230		3		3		3	
4			4		4		4		204		4		4		4	
5			5		5		5		203		5		5		5	
6			6		6		6		288		6		6		6	
7			7		7		7		211		7		7		7	
8			8		8		8		212		8		8		8	
9			9		9		9		234		9		9		9	
10			10		10		10		256		10		10		10	

```
UPDATE judge SET judge_exp =null WHERE judge_exp<2;
DELETE FROM judge WHERE judge_exp =null;
```

```
UPDATE tenant SET cafe_name= 'ZhekaDONER' WHERE
cafe_name='Murray-Kub';
DELETE FROM tenant WHERE cafe_name= 'Friesen Group';
```

```
UPDATE ratings SET rating_score = 72 WHERE rating_score <70 ;
DELETE FROM ratings WHERE rating_score <1200;
```

```
UPDATE players SET price_pl =300 WHERE pl_name = 'Zola';
DELETE FROM players WHERE pl_name = 'Cooper';
```

```
UPDATE chess_event SET tournament_coefficient =2.55 WHERE
tournament_coefficient =4.92;
DELETE FROM chess_event WHERE tournament_coefficient=1.21;
```

```
UPDATE commentator SET commentator_exp = 10 WHERE
commentator_exp = 10;
```

```
UPDATE organizer SET prize_id= 210 WHERE prize_id = 210;
DELETE FROM organizer WHERE organizer_id=23;
```

```
UPDATE provided_meal SET canteen = 'AZHAR' WHERE canteen =
'Grant';
DELETE FROM provided_meal WHERE players_meal='Bread';
```

```
UPDATE prizes SET prize_name= 'coupon' WHERE prize_name=
'coupon';
DELETE FROM prizes WHERE prize_id=23;
```

```
DELETE FROM commentator WHERE commentator_exp <10;
UPDATE commentator SET commentator_exp = 10 WHERE
commentator_exp = 10;
```

```
DELETE FROM renter WHERE renter_feedback<2;
UPDATE renter SET renter_feedback = 2 WHERE renter_name=
'Thekla';
```

```
UPDATE equipments SET equipment_name= 'cap' WHERE renter_id= 9;
DELETE FROM equipments WHERE equipment_id=10;
```

```
DELETE FROM viewers WHERE price_viewers <100;
UPDATE viewers SET price_viewers=123 WHERE price_viewers=123;
```

## 6) Queries

1.

```
SELECT cafe_name FROM tenant WHERE cafe_name IN ('Breitenberg',
'Wiza-Home');
```

	cafe_name character varying (12)
1	Breitenberg
2	Wiza-Home

2. SELECT renter\_name FROM renter WHERE renter\_name LIKE '%l%';

Data Output	
	renter_name character varying (12)
1	Kelsi
2	Harald
3	Muriel
4	Thekla

3. SELECT pl\_name FROM players ORDER BY pl\_name ASC;

	pL_name character varying	
1	Aloin	
2	Avrom	
3	Barbabra	
4	Berget	
5	Chad	
6	Constanta	
7	Dodie	
8	Ethelred	
9	Giacopo	
10	Hali	
11	Kali	
12	Kelvin	16 Morlee
13	Kipp	17 Phillie
14	Lorie	18 Robbie
15	Mellisa	19 Rowney
16	Morlee	20 Toby
17	Phillie	21 Vivianne
		22 Zola

4. SELECT COUNT(\*) FROM viewers;

#### Data Output

	count bigint	
1	23	

5. select renter.renter\_id, equipments.renter\_id  
from equipments  
inner join renter  
on equipments.renter\_id = renter.renter\_id;

	renter_id numeric (12)	renter_id numeric (12)	
1	1	1	
2	2	2	
3	3	3	
4	4	4	
5	5	5	
6	6	6	
7	7	7	
8	8	8	
9	9	9	

6. SELECT commentator.commentator\_id, viewers.price\_viewers FROM  
commentator  
FULL JOIN viewers on viewers.viewer\_id =commentator. viewer\_id ;



	<b>commentator_id</b> numeric (12)	<b>price_viewers</b> integer
1	2	122
2	3	121
3	4	120
4	5	119
5	6	118
6	7	117
7	8	116
8	9	115
9	10	114
10	11	113
11	12	112
12	13	111
13	14	110
14	15	109
15	16	108
16	17	107
17	18	106

```
7. SELECT AVG(price_viewers) as avg_from_viewers
FROM viewers;
```

Messages		Data Output
	<b>avg_from_viewers</b> numeric	
1	112.000000000000000000	

```
8. select avg(price_pl) as avg_from_players
from players;
```

Messages		Data Output
	<b>avg_from_players</b> numeric	
1	342.0909090909090909	

```
9. SELECT MAX(price_pl), min(price_pl) from players
```

Messages		Data Output
	<b>max</b> integer	<b>min</b> integer
1	2384	203

```
10. SELECT chess_variant, tournament_coefficient
FROM chess_event
WHERE (tournament_coefficient<=2)
OR (tournament_coefficient>3 AND chess_variant like '%z%');
```

Messages		Data Output
	chess_variant [PK] character varying (12)	tournament_coefficient integer
1	blitzz	5
2	classicc	2
3	classic	1
4	blitz	4
5	blitzzz	4
6	blittz	1

```
11. SELECT judge_exp, jugde_ratings
FROM judge
WHERE jugde_ratings BETWEEN 1900 AND 2500
order by judge_id desc;
```

	judge_exp numeric (12)	jugde_ratings integer
1	22	1952
2	15	1975
3	27	1904
4	7	2114
5	16	1927
6	19	2190

## 7) Subqueries

```
1. SELECT commentator_id, commentator_exp
FROM commentator
WHERE commentator_exp >
( SELECT AVG(judge_exp) FROM judge )
ORDER BY commentator_exp DESC;
```

	commentator_id [PK] numeric (12)	commentator_exp numeric (12)
1	6	29
2	21	29
3	18	29
4	12	28
5	13	27
6	5	26
7	14	26
8	11	25
9	23	24
10	7	23
11	20	22
12	4	22
13	10	21

```
2. SELECT prize_name, prize_id
FROM prizes WHERE prize_id <> (
SELECT max(price_viewers)-min(price_viewers)/2
FROM viewers
);
```

Data Output

	prize_name character varying (12)	prize_id [PK] numeric (12)
1	medal	4
2	medal	11
3	medal	12
4	cup	13
5	medal	22
6	coupon	1
7	coupon	2
8	coupon	3
9	coupon	5
10	coupon	6
11	coupon	7
12	coupon	8
13	coupon	9
14	coupon	10
15	coupon	14
16	coupon	15
17	coupon	16
18	coupon	17

Data Output

17	coupon	16
18	coupon	17
19	coupon	18
20	coupon	19
21	coupon	20
22	coupon	21

Data Output

```

3. SELECT *FROM prizes
WHERE prizes.prize_name <> ALL
    ( SELECT prizes.prize_name FROM prizes
      WHERE prize_name = 'coupon' );

```

Data Output Messages

	prize_id [PK] numeric (12)	prize_name character varying (12)
1	4	medal
2	11	medal
3	12	medal
4	13	cup
5	22	medal

```

SELECT players_meal, meal_id
FROM provided_meal
WHERE meal_id = (
    SELECT player_id
    FROM players
    WHERE player_id=21)

```

Data Output Messages

	players_meal character varying (12)	mealId [PK] numeric (12)
1	Veal	21

```

INSERT INTO prizes
SELECT * FROM ratings
WHERE rating_score in(1777,1867);
select*from prizes;

```

Data Output		Messages	
	<b>prize_id</b> [PK] numeric (12)		<b>prize_name</b> character varying (12)
16	15		coupon
17	16		coupon
18	17		coupon
19	18		coupon
20	19		coupon
21	20		coupon
22	21		coupon
23	1777		[null]
24	1867		[null]

## Appendix

There are some screenshots taken after the update/delete queries.

				FinalProjectDimashAzhar/postgres@PostgreSQL 11				rating_score [PK] numeric (12)	
				Query Editor	Query History	Explain	Notifications		
judge_id [PK] numeric (12)	judge_exp numeric (12)	judge_ratings integer		tenant_id [PK] numeric (12)	cafe_name character varying (12)				
1	2	22	1126	8	8 Schumm			1	1293
2	3	10	1050	9	9 Lang			2	1382
3	4	4	1749	10	10 Runolfsson			3	1491
4	5	5	1568	11	11 Macejkovic			4	1596
5	6	4	1489	12	12 King			5	1362
6	8	17	1840	13	14 Hoeger			6	1766
7	9	18	1452	14	15 Kshlerin			7	1888
8	10	19	2190	15	16 Osinski			8	1780
9	11	16	1927	16	17 Russel			9	1777
10	12	7	2114	17	18 Gerhold			10	1778
11	13	6	1813	18	19 Marks			11	1867
12	14	18	1575	19	20 Padberg			12	1597
13	15	27	1904	20	21 Bergstrom			13	1472
14	16	8	1528	21	22 Poulos			14	1371
15	17	25	1229	22	23 Jacobi-Conn			15	1880
16	18	15	1975	23	13 ZhekaDONER			16	1476

				FinalProjectDimashAzhar/postgres@PostgreSQL 11			
				Query Editor	Query History	Explain	Notifications
player_id numeric (12)	price_pl [PK] integer	pl_name character varying (12)		chess_variant [PK] character varying (12)	tournament_coefficient integer		
8	10	256 Chad		1 bullett	3		
9	11	219 Lorie		2 blitzz	5		
10	12	290 Phillie		3 classicc	2		
11	13	293 Avrom		4 chordd	4		
12	14	265 Dodie		5 classic	1		
13	15	278 Robbie		6 racingkingss	5		
14	16	232 Kelvin		7 blitz	4		
15	17	233 Vivianne		8 racingkings	4		
16	18	2384 Morlee		9 blitzzz	4		
17	19	235 Rowney		10 classiccc	3		
18	20	236 Aloin		11 bullettt	3		
19	21	237 Mellisa		12 classic	3		
20	22	238 Hali		13 blitz	1		
21	23	239 Kali		14 bbullet	3		
22	7	300 Zola					

				Data Output				Messages			
organizer_id [PK] numeric (12)	judge_id numeric (12)	tenant_id numeric (12)	renter_id numeric (12)	price_pl integer	meal_id numeric (12)	prize_id numeric (12)	commentator_id numeric (12)				
1	1	1	1	210	1	1	1				
2	2	2	2	220	2	2	2				
3	3	3	3	230	3	3	3				
4	4	4	4	204	4	4	4				
5	5	5	5	203	5	5	5				
6	6	6	6	288	6	6	6				
7	7	7	7	211	7	7	7				
8	8	8	8	212	8	8	8				
9	9	9	9	234	9	9	9				
10	10	10	10	256	10	10	10				

FinalProjectDimashAzhar/postgres@PostgreSQL 11

Query EditorQuery HistoryExplainNotificationsData OutputMessage

meal_id [PK] numeric (12)	canteen character varying (12)	players_meal character varying (12)
7	7 Mante	Winee
8	8 Hahn	Marjoram
9	10 Hayes	Dill
10	11 Hammes	Beef
11	13 Nienow	Pheasants
12	14 Marvin	Syrup
13	15 Watsica	Cup
14	16 Little	Cookie
15	17 Flatley	Browning
16	18 Barton	Juice
17	19 Konopelski	Orange
18	20 Lynch	Cheese
19	21 Hill	Veal
20	22 Hudson	Crab
21	23 Barrows	Compound
22	9 AZHAR	Wine -

FinalProjectDimashAzhar/postgres@PostgreSQL 11

Query EditorQuery HistoryExplainNotificationsData Output

renter_id [PK] numeric (12)	renter_name character varying (12)	renter_feedback numeric (12)
1	1 Babara	3
2	3 Kelsi	3
3	4 Harald	4
4	5 Tyson	5
5	6 Manda	5
6	7 Muriel	2
7	8 Abbie	3
8	9 Leodora	2
9	10 Natka	2
10	2 Thekla	2

FinalProjectDimashAzhar/postgres@PostgreSQL 11

Query EditorQuery HistoryExplainNotificationsData OutputMessages

equipment_id [PK] numeric (12)	equipment_type character (5)	equipment_name character varying (12)	renter_id numeric (12)
1	1 ftg	board	1
2	2 furnt	table	2
3	3 ftg	pen	3
4	4 ftg	clock	4
5	5 ftg	board	5
6	6 furnt	chair	6
7	7 ftg	board	7
8	8 ftg	clock	8
9	9 ftg	cap	9

FinalProjectDimashAzhar/postgres@PostgreSQL 11

Query EditorQuery HistoryExplainNotificationsData Output

price_viewers integer	viewer_id [PK] numeric (12)
1	122
2	121
3	120
4	119
5	118
6	117
7	116
8	115
9	114
10	113
11	112
12	111
13	110
14	109
15	108
16	107
17	106

Reflections I had during the completion the project work.

Each of the freshman students taking an ICT course at Astana IT University is expected to show full understanding of the SQL, what database is, and also expected to be able to use PostgreSQL. At the beginning of the second part of the course we started using pgAdmin, tasks were to write different queries and now we create a whole database with different tables, foreign keys, implement joins to see what we have which is wonderful, in my opinion.

First of all we spent 2 hours thinking of database. Which tables, columns we are going to write, which tables would include foreign keys, what we are going to write in the future presentation. Dinmukhamed had some troubles with his laptop, therefore most of the work done at the beginning was on my PostgreSQL, but it is true that we worked together. Sometimes we did not know how to assign unique constraint and either I or he was searching for unique constraint's syntax, what should it do, why do we need it in our database. Codes were easy to do for us as a whole, because we have completed previous assignments with no mistakes in. I do believe these days our team is having much more stronger coding skills in terms of PostgreSQL, then it was before the project completion. The intensive "ICT nights" gave us a lot, as a matter of fact, I learned to stay concentrated even when I was too tired, felt drowsiness, wanted to close all SQL related tabs.

In conclusion, I want to thank Astana IT University's curriculum for assigning us such an interesting ICT project. It forced me to challenge myself and Dinmukhamed, too.

Thank you for your attention.