Министерство образования Республики Беларусь

Учреждение образования

«Белорусский государственный университет   
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Кафедра электронных вычислительных машин

Дисциплина: «Базы данных»

Лабораторная работа № 1

«Реализация SQL-запросов для создания схемы базы данных»

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Работа выполнялась с использованием СУБД PostgreSQL. Была создана база данных с названием «footballClub». Далее был написан скрипт для создания таблиц, установления ограничений и связей между таблицами:

CREATE TABLE sportsmen

(

ID SERIAL CONSTRAINT sportsmen\_Id PRIMARY KEY,

fname CHARACTER VARYING(30) CONSTRAINT fname\_nn NOT NULL,

sname CHARACTER VARYING(30) CONSTRAINT sname\_nn NOT NULL,

amplua CHARACTER VARYING(30) CONSTRAINT amplua\_nn NOT NULL,

birthday DATE CONSTRAINT birthday\_nn NOT NULL,

nationality CHARACTER VARYING(30) CONSTRAINT nationality\_nn NOT NULL

);

CREATE TABLE individual\_achievments

(

ID SERIAL CONSTRAINT individual\_achievments\_id PRIMARY KEY,

sportsmen\_id INTEGER,

aname CHARACTER VARYING(30) CONSTRAINT aname\_nn NOT NULL,

FOREIGN KEY (sportsmen\_id) REFERENCES sportsmen (Id)

);

CREATE TABLE trainer

(

ID SERIAL CONSTRAINT trainer\_id PRIMARY KEY,

fname CHARACTER VARYING(30) CONSTRAINT fname\_nn NOT NULL,

sname CHARACTER VARYING(30) CONSTRAINT sname\_nn NOT NULL,

birthday DATE CONSTRAINT birthday\_nn NOT NULL,

nationality CHARACTER VARYING(30) CONSTRAINT nationality\_nn NOT NULL,

main\_ahchievment CHARACTER VARYING(30) CONSTRAINT main\_ahchievment\_nn NOT NULL

);

CREATE TABLE team

(

ID SERIAL CONSTRAINT team\_id PRIMARY KEY,

sportsmen\_id INTEGER,

trainer\_id INTEGER,

tname CHARACTER VARYING(30) CONSTRAINT tname\_nn NOT NULL,

FOREIGN KEY (sportsmen\_id) REFERENCES sportsmen (Id),

FOREIGN KEY (trainer\_id) REFERENCES trainer (Id)

);

CREATE TABLE club

(

ID SERIAL CONSTRAINT club\_id PRIMARY KEY,

team\_id INTEGER,

cname CHARACTER VARYING(30) CONSTRAINT cname\_nn NOT NULL,

country CHARACTER VARYING(30) CONSTRAINT country\_nn NOT NULL,

FOREIGN KEY (team\_id) REFERENCES team (Id)

);

CREATE TABLE match\_result

(

ID SERIAL CONSTRAINT match\_result\_id PRIMARY KEY,

team\_id INTEGER,

competitor CHARACTER VARYING(30) CONSTRAINT competitor\_nn NOT NULL,

mresult CHARACTER VARYING CONSTRAINT mresult\_nn NOT NULL,

seson CHARACTER VARYING(30) CONSTRAINT seson\_nn NOT NULL,

league CHARACTER VARYING(30) CONSTRAINT league\_nn NOT NULL,

FOREIGN KEY (team\_Id) REFERENCES team (Id)

);

CREATE TABLE club\_owner

(

ID SERIAL CONSTRAINT club\_owner\_id PRIMARY KEY,

club\_id INTEGER,

fname CHARACTER VARYING(30) CONSTRAINT fname\_nn NOT NULL,

sname CHARACTER VARYING(30) CONSTRAINT sname\_nn NOT NULL,

birthday DATE CONSTRAINT birthday\_nn NOT NULL,

nationality CHARACTER VARYING(30) CONSTRAINT nationality\_nn NOT NULL,

FOREIGN KEY (club\_Id) REFERENCES club (Id)

);

CREATE TABLE stadium

(

ID SERIAL CONSTRAINT stadium\_id PRIMARY KEY,

team\_id INTEGER,

sname CHARACTER VARYING(30) CONSTRAINT sname\_nn NOT NULL,

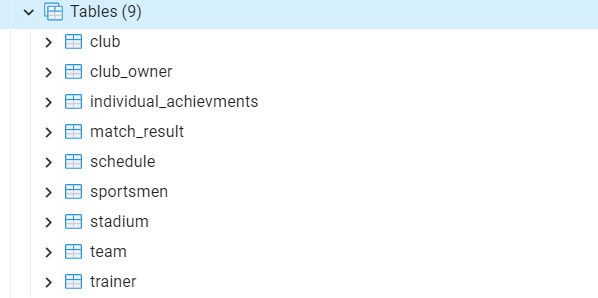
capacity INTEGER,

foundation\_date DATE CONSTRAINT foundation\_date\_nn NOT NULL,

FOREIGN KEY (team\_Id) REFERENCES team (Id)

)

После применения скрипта средствами СУБД была построена база данных, которая представлена ниже.



Затем заполним БД данными.

INSERT INTO individual\_achievments (sportsmen\_id, aname)

VALUES

(1, '4 Times get Golden Ball'),

(2, '4 Times get Golden Ball'),

(3, 'Top 10 Young Player in World'),

(4, 'Russian Capitan 2010-2o16'),

(5, 'Main GK of Russia Top 2 2020'),

(6, 'DF, nomimated on Golden Ball')

INSERT INTO trainer (fname, sname, birthday, nationality, main\_ahchievment)

VALUES

('Andrei', 'Ostapenko', '16.04.1982', 'England', 'League Champions(1999)'),

('Andres', 'Iniesta', '20.02.1977', 'Spain', 'Chinese tournament(1980)'),

('Stanislav', 'Cherchesov', '02.09.1963', 'Russia', 'Top2 Sbornaya Rossii(2020)'),

('Valeriy', 'Karpin', '12.02.1975', 'Russia', 'Sbornaya Rossii'),

('Endrew', 'Donaruma', '11.02.1978', 'Portugal', 'Sbornaya Rossii'),

('Konstantin', 'Pleshev', '09.01.1981', 'Belarus', 'Olimpics winner 2002')

INSERT INTO club (team\_id, cname, country)

VALUES

(1, 'Premier League', 'England'),

(2, 'La league', 'Spain'),

(3, 'French Football league', 'France'),

(4, 'RussPremier League', 'Russia'),

(5, 'RussPremier League', 'Russia'),

(6, 'Belarus League', 'Belarus')

INSERT INTO team (sportsmen\_id, trainer\_id, tname)

VALUES

(1, 1, 'Manchester city'),

(2, 5, 'Barcelona'),

(3, 2, 'Paris Saint Germain'),

(4, 4, 'Spartak'),

(5, 3, 'Dinamo'),

(6, 6, 'Bate')

INSERT INTO club\_owner (club\_id, fname, sname, birthday, nationality)

VALUES

(6, 'Mansur ibn Zaid', 'Al Nahaiyan', '29.04.1967', 'UAE'),

(7, 'Joan', 'La Porte', '20.09.1955', 'Spain'),

(8, 'Nasser', 'Ganim Al-Xhelafi', '12.11.1973', 'Katar'),

(9, 'Leonid Arnoldovich', 'Fedun', '05.04.1956', 'Russia'),

(10, 'Leontiy Leonidovich', 'Karanin', '12.12.1977', 'Russia'),

(11, 'Anatoliy Fedorovich', 'Kapskiy', '19.02.1966', 'Belarus')

INSERT INTO stadium (team\_id, sname, capacity, foundation\_date)

VALUES

(1, 'Old Trafford', 76000, '10.09.1910'),

(2, 'Camp Nou', 99354, '24.09.1957'),

(3, 'Parc des Princes', 49691, '01.09.1897'),

(4, 'Otkritie Bank Arena', 45360, '05.09.2014'),

(5, 'VTB Arena', 33000, '19.09.1928'),

(6, 'Borisov Arena', 13121, '03.05.2014')

INSERT INTO match\_result (team\_id, competitor, mresult, seson, league)

VALUES

(1, 'Manchester United', 'WIN', '22', 'Champions League'),

(2, 'Real Madrid', 'WIN', '22', 'La League'),

(3, 'Uventus', 'LOSE', '22', 'Champions League'),

(4, 'Tor Gdansk', 'WIN', '21', 'European Championship'),

(5, 'Dynamo Kiev', 'LOSE', '22', 'European Championship'),

(6, 'Dynamo Minsk', 'WIN', '22', 'Belarusian Championship')

INSERT INTO schedule (team\_id, trainer\_id, sday)

VALUES

(1, 1, '05.07.2022'),

(2, 2, '25.06.2022'),

(3, 3, '30.06.2022'),

(4, 4, '30.06.2022'),

(5, 5, '10.08.2022'),

(6, 6, '21.07.2022')

Таблица sportsmen.



Таблица individual-achievments.



Таблица trainer.



Таблица team.

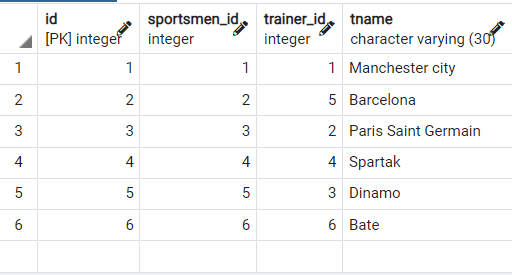


Таблица club.



Таблица club-owner.



Таблица stadium.

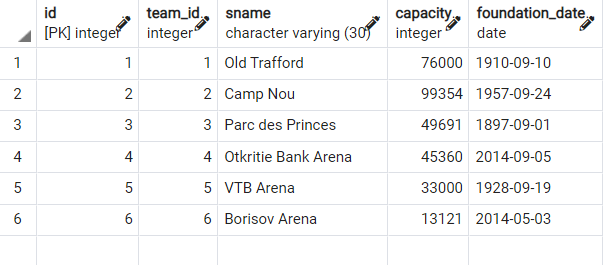


Таблица match-results.

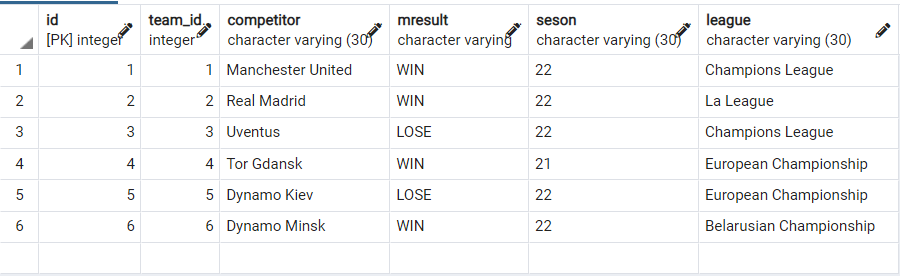


Таблица schedule.

