Санкт-Петербургский политехнический университет Петра Великого
Институт компьютерных наук и технологий
Кафедра компьютерных систем и программных технологий

Отчёт о лабораторной работе

Дисциплина: Базы данных **Тема:**

Язык SQL-DDL

Выполнил студент гр. 43501/1 Дроздовский А.А.

Руководитель Мяснов А.В.

Санкт –Петербург

2016

1. Цель работы

Познакомить студентов с основами проектирования схемы БД, языком описания сущностей и ограничений БД SQL-DDL.

2. Программа работы

1) Самостоятельное изучение SQL-DDL

2) Создание скрипта БД в соответствии с согласованной схемой (должны присутствовать первичные и внешние ключи, ограничения на диапазоны значений). Продемонстрировать скрипт преподавателю.

3) Создайте скрипт, заполняющий все таблицы БД данными

4) Выполнение SQL-запросов, изменяющих схему созданной БД по заданию преподавателя. Продемонстрировать их работу преподавателю.

5) Изучите основные возможности IBExpert. Получите ER-диаграмму созданной БД с помощью Database Designer.

6) Автоматически сгенерируйте данные при помощи IBExpert (для трех или большего числа таблиц, не менее 100000 записей в каждой из выбранных таблиц)

3. Ход работы

Конечный вариант структурной схемы представлен на рисунке 3.1.

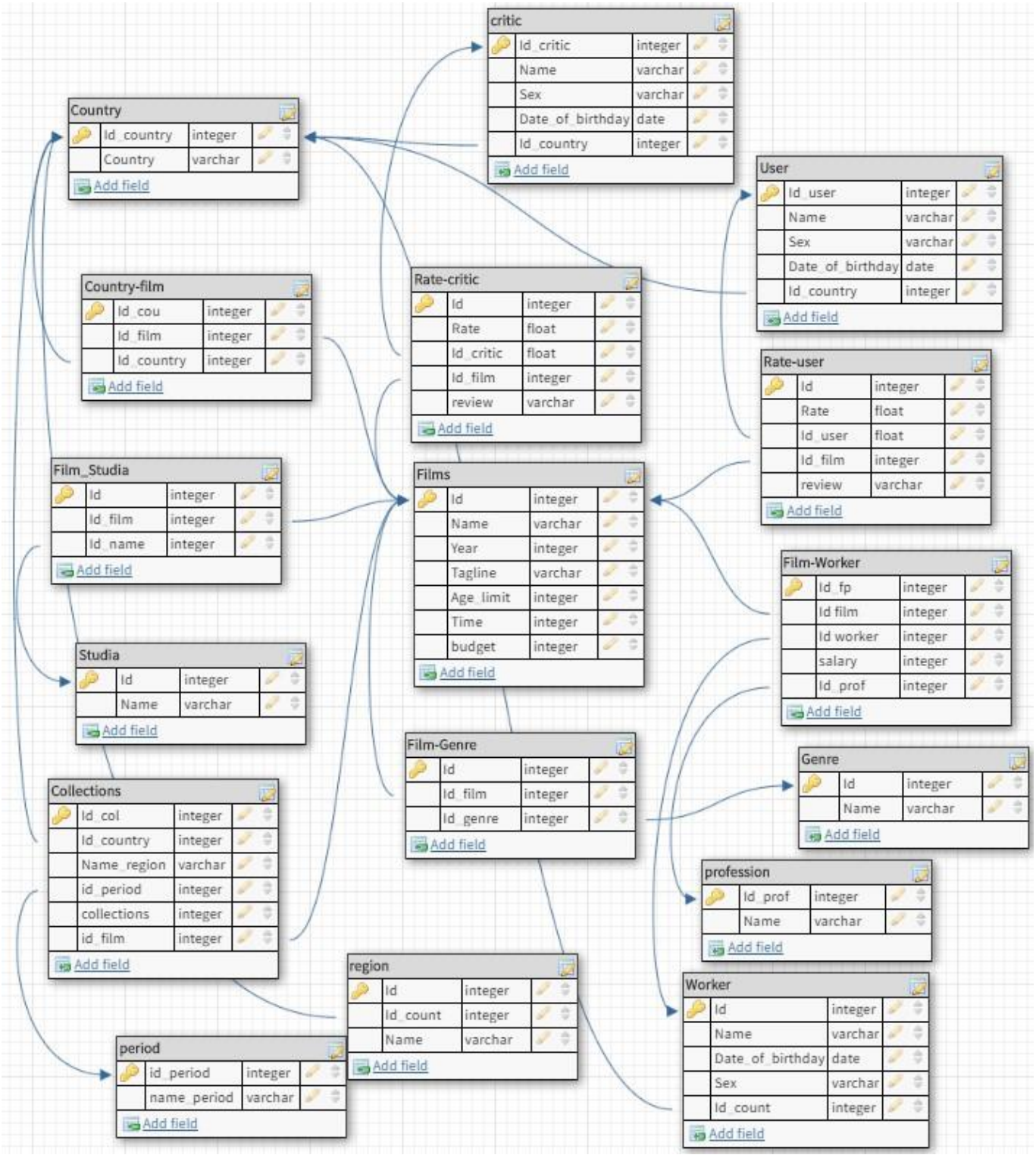


Рис. 3.1. Схема БД.

Для создания базы данных через утилиту Firebird был написан скрипт. Ниже представлен текст скрипта ***KP.sql***:

```
create database 'C:\BD\Lab3\Kinopoisk.fdb' User 'SYSDBA' password 'masterkey'; commit;
connect 'C:\BD\Lab3\Kinopoisk.fdb' User 'SYSDBA' password 'masterkey'; commit;
 create table Films (
Id int primary key,
    Name varchar(30) ,
    Years int ,
    Tagline varchar(100) ,
    Age_limit int ,
Times int ,     budget
int
);
 create table Film_Worker
(     Id_fp int primary
key,
    Id_film int ,
Id_worker int ,
salary int ,     Id_prof
int
);
 create table Country_film
(     Id_cou int primary
key,
    Id_film int ,
    Id_country int
);
 create table Studia (
Id int primary key,
    Id_film int ,
    Name varchar(30) ,
    Rate_stF FLOAT
);
 create table Film_Genre
(
    Id int primary key,
    Id_film int ,
    Id_genre int
);
 create table Genre (
Id int primary key,
    Name varchar(20)
);


create table UserK (
    Id_UserK int primary key,
    Name varchar(30) ,
    Sex varchar(1) ,
    Date_of_birthday DATE ,
    Id_country int
);
 create table Rate_UserK
(
    Id int primary key,
    Rate FLOAT ,
    Id_UserK FLOAT ,
Id_film int ,     review
varchar(100)
);


create table critic (
    Id_critic int primary key,
    Name varchar(20) ,
    Sex varchar(1) ,
    Date_of_birthday DATE ,
    Id_country int
);


create table Country (
    Id_country int primary key,
    Country varchar(20)
);
 create table Rate_critic
(
    Id int primary key,
    Rate FLOAT ,
    Id_critic FLOAT ,
    Id_film int ,
```

```
    review varchar(100)
);
 create table Collections (
Id_col int primary key,
    Id_country int ,
    Name_region varchar(30) ,
id_period int ,
collections int ,     id_film
int
);


create table period (
id_period int primary key,
name_period varchar(30)
);
 create table Worker (
Id  int primary key,
    Name varchar(30) ,
    Date_of_birthday DATE ,
    Sex varchar(30) ,
    Country varchar(30)
);
 create table profession (
Id_prof int primary key,
    Name varchar(30)
); commit;
ALTER TABLE Film_Worker ADD CONSTRAint Film_Worker_fk0 FOREIGN KEY (id_film) REFERENCES Films(Id);
ALTER TABLE Film_Worker ADD CONSTRAint Film_Worker_fk1 FOREIGN KEY (id_worker) REFERENCES Worker(Id );
ALTER TABLE Film_Worker ADD CONSTRAint Film_Worker_fk2 FOREIGN KEY (Id_prof) REFERENCES
profession(Id_prof);
ALTER TABLE Country_film ADD CONSTRAint Country_film_fk0 FOREIGN KEY (Id_film) REFERENCES Films(Id);
ALTER TABLE Country_film ADD CONSTRAint Country_film_fk1 FOREIGN KEY (Id_country) REFERENCES
Country(Id_country);
ALTER TABLE Studia ADD CONSTRAint Studia_fk0 FOREIGN KEY (Id_film) REFERENCES Films(Id);
ALTER TABLE Film_Genre ADD CONSTRAint Film_Genre_fk0 FOREIGN KEY (Id_film) REFERENCES Films(Id);
ALTER TABLE Film_Genre ADD CONSTRAint Film_Genre_fk1 FOREIGN KEY (Id_genre) REFERENCES Genre(Id);
ALTER TABLE UserK ADD CONSTRAint UserK_fk0 FOREIGN KEY (Id_country) REFERENCES Country(Id_country);
ALTER TABLE Rate_UserK ADD CONSTRAint Rate_UserK_fk0 FOREIGN KEY (Id_UserK) REFERENCES UserK(Id_UserK);
ALTER TABLE Rate_UserK ADD CONSTRAint Rate_UserK_fk1 FOREIGN KEY (Id_film) REFERENCES Films(Id);
ALTER TABLE critic ADD CONSTRAint critic_fk0 FOREIGN KEY (Id_country) REFERENCES Country(Id_country);
ALTER TABLE Rate_critic ADD CONSTRAint Rate_critic_fk0 FOREIGN KEY (Id_critic) REFERENCES
critic(Id_critic);
ALTER TABLE Rate_critic ADD CONSTRAint Rate_critic_fk1 FOREIGN KEY (Id_film) REFERENCES Films(Id); ALTER
TABLE Collections ADD CONSTRAint Collections_fk0 FOREIGN KEY (Id_country) REFERENCES
Country(Id_country);
ALTER TABLE Collections ADD CONSTRAint Collections_fk1 FOREIGN KEY (id_period) REFERENCES
period(id_period);
ALTER TABLE Collections ADD CONSTRAint Collections_fk2 FOREIGN KEY (id_film) REFERENCES Films(Id); show
tables;
```

На рисунке 3.2. представлен результат работы данного скрипта.

```
ISQL Version: WI-V2.5.6.27020 Firebird 2.5
Use CONNECT or CREATE DATABASE to specify a database
SQL> INPUT 'C:\BD\Lab3\KP.sql'
CON> ;
Server version:
WI-V2.5.6.27020 Firebird 2.5
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
Server version:
WI-V2.5.6.27020 Firebird 2.5
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
Database:  'C:\BD\Lab3\Kinopoisk.fdb', User: SYSDBA
       COLLECTIONS                     COUNTRY
       COUNTRY_FILM                    CRITIC
       FILMS                           FILM_GENRE
       FILM_WORKER                     GENRE
       PERIOD                          PROFESSION
       RATE_CRITIC                     RATE_USERK
       STUDIA                          USERK
       WORKER
CON>
```

Рис. 3.2. Работа скрипта.

Дополнительное задание:

1) Реализовать учет рецензий фильмов кинокритиками и пользователями.

2) Реализовать учет участия в производстве фильмов людей в разных ролях:

режиссер, актер, сценарист и пр.

3) Реализовать учет гонораров людей, участвующих в производстве фильмов.

4) Реализовать учет сборов фильмов по странам, регионам, периодам.

Изменим схему созданной БД, выполняя SQL-запросы:

```
 ALTER TABLE Film_Actor ADD salary int  NOT NULL;
ALTER TABLE Film_Producer ADD salary int  NOT NULL;


--Создадим таблицы для пользователей и критиков, и соответственно для их отзывов:
create table UserK (
    Id_user int primary key,
    Name varchar(30),
    Sex varchar(1),
    Date_of_birthday DATE,
    Id_country int
); create table Rate_user (
    Id int primary key,
    Rate float,
    Id_user int,     Id_film int,     review varchar(100)
);


create table critic (
    Id_critic int primary key,
    Name varchar(30),
    Sex varchar(1),
    Date_of_birthday DATE,
    Id_country int
); create table Rate_critic (
    Id int primary key,
    Rate float,
    Id_critic int,     Id_film int,     review varchar(100)
);
--Создадим таблицы для подсчета сборов:
create table Collections (     Id_col int primary key,
    Id_country int,
    Name_region varchar(30),     id_period int,     collections int,     id_film int
);


create table period (     id_period int primary key,     name_period varchar(20) );
ALTER TABLE UserK ADD CONSTRAint User_fk0 FOREIGN KEY (Id_country) REFERENCES Country(Id_country);
ALTER TABLE Rate_user ADD CONSTRAint Rate_user_fk0 FOREIGN KEY (Id_user) REFERENCES UserK(Id_user);
ALTER TABLE Rate_user ADD CONSTRAint Rate_user_fk1 FOREIGN KEY (Id_film) REFERENCES Films(Id);
ALTER TABLE critic ADD CONSTRAint critic_fk0 FOREIGN KEY (Id_country) REFERENCES Country(Id_country);
ALTER TABLE Rate_critic ADD CONSTRAint Rate_critic_fk0 FOREIGN KEY (Id_critic) REFERENCES
critic(Id_critic);
ALTER TABLE Rate_critic ADD CONSTRAint Rate_critic_fk1 FOREIGN KEY (Id_film) REFERENCES Films(Id);
```

Текст скрипта ***WKP.sql*** для заполнения данной базы данных информацией представлен ниже:

```
connect 'C:\BD\Lab3\Kinopoisk.fdb' user 'SYSDBA' password 'masterkey'; commit;


--Страны:
insert into Country values(1,'Russia');
insert into Country values(2,'Italy');
insert into Country values(3,'USA'); insert
into Country values(4,'France'); insert
into Country values(5,'Latvia'); insert
into Country values(6,'Ukraine'); insert
into Country values(7,'Germany'); insert
into Country values(8,'China'); insert into
Country values(9,'Canada'); insert into
Country values(10,'Brazil');


--Студии:
insert into Studia values(1,'Warner brothers');
insert into Studia values(2,'Marvel studios'); insert
into Studia values(3,'21st century fox'); insert into
Studia values(4,'Universal Studios'); insert into
Studia values(5,'Pixar ');


--Работники: insert into Worker values (1,'Olivier
Nakache','15.04.1973','M',4); insert into Worker values (2,'Eric
Toledano','03.07.1971','M',4); insert into Worker values (3,'Frank
Darabont','28.01.1959','M',4); insert into Worker values
(4,'François Cluzet','21.09.1955','M',4); insert into Worker values
(5,'Omar Sy','20.01.1978','M',4); insert into Worker values
(6,'Anne Le Ny','16.12.1962','W',4); insert into Worker values
(7,'Tim Robbins','16.10.1958','M',3); insert into Worker values
(8,'Morgan Freeman','01.06.1937','M',3);
--Фильмы:
insert into Films values (1,'The Shawshank Redemption',1994,'Fear - it shackles. Hope - is
freedom',16,142,2500000);
insert into Films values (2,'The Green Mile',1999,'Paul Edgecombe did not believe in miracles. While not
faced with one of them.',16,189,60000000);
insert into Films values (3,'Forrest Gump',1994,'The world will never be the same after you see it through
the eyes of Forrest Gump',12,142,55000000);
insert into Films values (4,'Schindlers List',1993,'This list of - life',16,195,22000000);
insert into Films values (5,'Intouchables',2011,'Sometimes you have to reach into someone else is world to
find out what is missing in your own',16,112,9500000);


--Фильм-Студия:
insert into Film_Studia values(1,1,1); insert
into Film_Studia values(2,2,1);


--Фильм-Страна:
insert into Country_film values(1,1,3); insert
into Country_film values(2,2,3); insert into
Country_film values(3,3,3); insert into
Country_film values(4,4,3); insert into
Country_film values(5,5,4);


--Профессии: insert into profession values
(1,'Producer'); insert into profession values
(2,'Actor');


--Фильм-Работники: insert into Film_Worker
values (1,5,1,1500,1); insert into Film_Worker
values (2,5,2,2000,1); insert into Film_Worker
values (3,1,3,4300,1); insert into Film_Worker
values (4,5,1,5790,2); insert into Film_Worker
values (5,5,2,1333,2); insert into Film_Worker
values (6,5,3,890,2); insert into Film_Worker
values (7,1,4,1290,2); insert into Film_Worker
values (8,1,5,1780,2);


--Жанры:
insert into Genre values(1,'action');
insert into Genre values(2,'adventure');
insert into Genre values(3,'comedy');
insert into Genre values(4,'drama'); insert
into Genre values(5,'crime'); insert into
Genre values(6,'horror'); insert into Genre
```

```
values(7,'fantasy'); insert into Genre
values(8,'thriller'); insert into Genre
values(9,'family'); insert into Genre
values(10,'documentary'); insert into Genre
values(11,'detective'); insert into Genre
values(12,'biography');

insert into Genre values(13,'animation');
--фильм-Жанр:
insert into Film_Genre values(1,1,4); insert
into Film_Genre values(2,1,5); insert into
Film_Genre values(3,2,4); insert into
Film_Genre values(4,2,5); insert into
Film_Genre values(5,2,11); insert into
Film_Genre values(6,3,4); insert into
Film_Genre values(7,3,3); insert into
Film_Genre values(8,4,4); insert into
Film_Genre values(9,5,4); insert into
Film_Genre values(10,5,3); insert into
Film_Genre values(11,5,12); insert into
Film_Genre values(12,4,12);


--Пользователи:
insert into UserK values(1,'White','M','26.05.1996',1);
insert into UserK values(2,'Alexey_D','M','31.12.1976',1);
insert into UserK values(3,'Veronica','W','19.08.1969',1);
insert into UserK values(4,'Diego','M','29.08.1993',10);
insert into UserK values(5,'Masha','W','04.07.1995',1);
insert into UserK values(6,'Janna','W','08.12.1964',5);
--Рецензии пользователей:
insert into Rate_userK values(1,'10',2,1,'Some of the birds in captivity can not be kept.');
insert into Rate_userK values(2,'7',6,3,'very boring! But interesting. One time watch');
--Критики:
insert into critic values(1,'Alex','M','26.05.1996',1); insert
into critic values(2,'ZLO','M','31.12.1976',1); insert into
critic values(3,'Jobs','W','19.08.1969',1);
insert into critic values(4,'BigRussianBoss','M','29.08.1993',10);
insert into critic values(5,'Nastya','W','04.07.1995',1); insert
into critic values(6,'John Cena','W','08.12.1964',5);
--Рецензии критиков:
insert into Rate_critic values(1,'10',2,1,'Very good!');
insert into Rate_critic values(2,'9',6,1,'very good movie! I recommend! SPACE');


--Период сборов:
insert into period values(1,'Week'); insert
into period values(2,'Month'); insert into
period values(3,'Half-year'); insert into
period values(4,'Year'); insert into period
values(5,'All time');


--Регионы:
insert into region values(1,1,'Republic of Karelia');
insert into region values(2,1,'Republic of Altai');
insert into region values(3,1,'St. Petersburg');
insert into region values(4,1,'Moscow'); insert into
region values(5,1,'Sevastopol');


--Сборы:
insert into Collections values(1,1,1,3000,1); insert
into Collections values(2,1,2,4500,1); insert into
Collections values(3,1,3,7000,1); insert into
Collections values(4,2,4,11000,1); insert into
Collections values(5,3,5,15000,1);
 select * from Films; select
* from Worker; select * from
Film_Worker; select * from
Film_Studia; select * from
Studia; select * from
Film_Studia; select * from
Country_film; select * from
Country; select * from
Film_Genre; select * from
Genre; select * from UserK;
select * from Rate_userK;
select * from critic; select
* from Rate_critic; select *
from region; select * from
Collections; select * from
period;
```

На рисунке 3.3. представлен результат работы данного скрипта.

```
SQL> INPUT 'C:\BD\Lab3\WKP.sql';
Rolling back work.
Server version:
WI-V2.5.6.27020 Firebird 2.5
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
WI-V2.5.6.27020 Firebird 2.5/XNet (WHITE-ПК)/P12
Database:  'C:\BD\Lab3\Kinopoisk.fdb', User: SYSDBA

          ID NAME                                    YEAR_FILM TAGLINE                                                                            AGE_LIMIT   TIME_FILM      BUDGET
============ ============================== ============ ================================================================================ ============ ============ ============
           1 The Shawshank Redemption                     1994 Fear - it shackles. Hope - is freedom                                                     16          142     2500000
           2 The Green Mile                               1999 Paul Edgecombe did not believe in miracles. While not faced with one of them.             16          189    60000000
           3 Forrest Gump                                 1994 The world will never be the same after you see it through the eyes of Forrest Gump        12          142    55000000
           4 Schindlers List                              1993 This list of - life                                                                       16          195    22000000
           5 Intouchables                                 2011 Sometimes you have to reach into someone else is world to find out what is missing in your own   16   112     9500000


       ID_FP      ID_FILM      ID_PROD       SALARY
============ ============ ============ ============
           1            5            1         1500
           2            5            2         2000
           3            1            3         4300


       ID_FA      ID_FILM     ID_ACTOR       SALARY
============ ============ ============ ============
           1            5            1         5790
           2            5            2         1333
           3            5            3          890
           4            1            4         1290
           5            1            5         1780


          ID NAME                           DATE_OF_BIRTHDAY SEX     ID_COUNTRY
============ ============================== ================ ====== ============
           1 Olivier Nakache                1973-04-15       M                4
           2 Eric Toledano                  1971-07-03       M                4
           3 Frank Darabont                 1959-01-28       M                4


          ID NAME                           DATE_OF_BIRTHDAY SEX     ID_COUNTRY
============ ============================== ================ ====== ============
           1 FranΓ§ois Cluzet               1955-09-21       M                4
           2 Omar Sy                        1978-01-20       M                4
           3 Anne Le Ny                     1962-12-16       W                4
           4 Tim Robbins                    1958-10-16       M                3
           5 Morgan Freeman                 1937-06-01       M                3

      ID_COU      ID_FILM   ID_COUNTRY
============ ============ ============
           1            1            3
           2            2            3
           3            3            3
           4            4            3
           5            5            4


  ID_COUNTRY COUNTRY
============ ====================
           1 Russia
           2 Italy
           3 USA
           4 France
           5 Latvia
           6 Ukraine
           7 Germany
           8 China
           9 Canada
          10 Brazil


          ID      ID_FILM     ID_GENRE
============ ============ ============
           1            1            4
           2            1            5
           3            2            4
           4            2            5
           5            2           11
           6            3            4
           7            3            3
           8            4            4
           9            5            4
          10            5            3
          11            5           12
          12            4           12


          ID NAME
============ ====================
           1 action
           2 adventure
           3 comedy
           4 drama
           5 crime
           6 horror
           7 fantasy
           8 thriller
           9 family
          10 documentary
          11 detective
          12 biography
          13 animation


     ID_USER NAME                           SEX    DATE_OF_BIRTHDAY  ID_COUNTRY
============ ============================== ====== ================ ============
           1 White                          M      1996-05-26                  1
           2 Alexey_D                       M      1976-12-31                  1
           3 Veronica                       W      1969-08-19                  1
           4 Diego                          M      1993-08-29                 10
           5 Masha                          W      1995-07-04                  1
           6 Janna                          W      1964-12-08                  5
          ID          RATE      ID_USER      ID_FILM REVIEW
============ ============= ============ ============ ================================================================================
           1      10.000000            2            1 Some of the birds in captivity can not be kept.
           2      7.0000000            6            3 very boring! But interesting. One time watch


   ID_CRITIC NAME                           SEX    DATE_OF_BIRTHDAY  ID_COUNTRY
============ ============================== ====== ================ ============
           1 Alex                           M      1996-05-26                  1
           2 ZLO                            M      1976-12-31                  1
           3 Jobs                           W      1969-08-19                  1
           4 BigRussianBoss                 M      1993-08-29                 10
           5 Nastya                         W      1995-07-04                  1
           6 John Cena                      W      1964-12-08                  5


          ID          RATE    ID_CRITIC      ID_FILM REVIEW
============ ============= ============ ============ ================================================================================
           1      10.000000            2            1 Very good!
           2      9.0000000            6            1 very good movie! I recommend! SPACE
      ID_COL   ID_COUNTRY NAME_REGION                       ID_PERIOD  COLLECTIONS      ID_FILM
============ ============ ============================== ============ ============ ============
           1            1 Republic of Karelia                        1         3000            1
           2            1 Republic of Karelia                        2         4500            1
           3            1 Republic of Karelia                        3         7000            1
           4            1 Republic of Karelia                        4        11000            1
           5            1 Republic of Karelia                        5        15000            1


   ID_PERIOD NAME_PERIOD
============ ====================
           1 Week
           2 Month
           3 Half-year
           4 Year
           5 All time

SQL>
```

Рис. 3.3. Заполнение всех таблиц.

На рисунке 3.4. представлена диаграмма базы данных сгенерированная с помощью IBExpert.

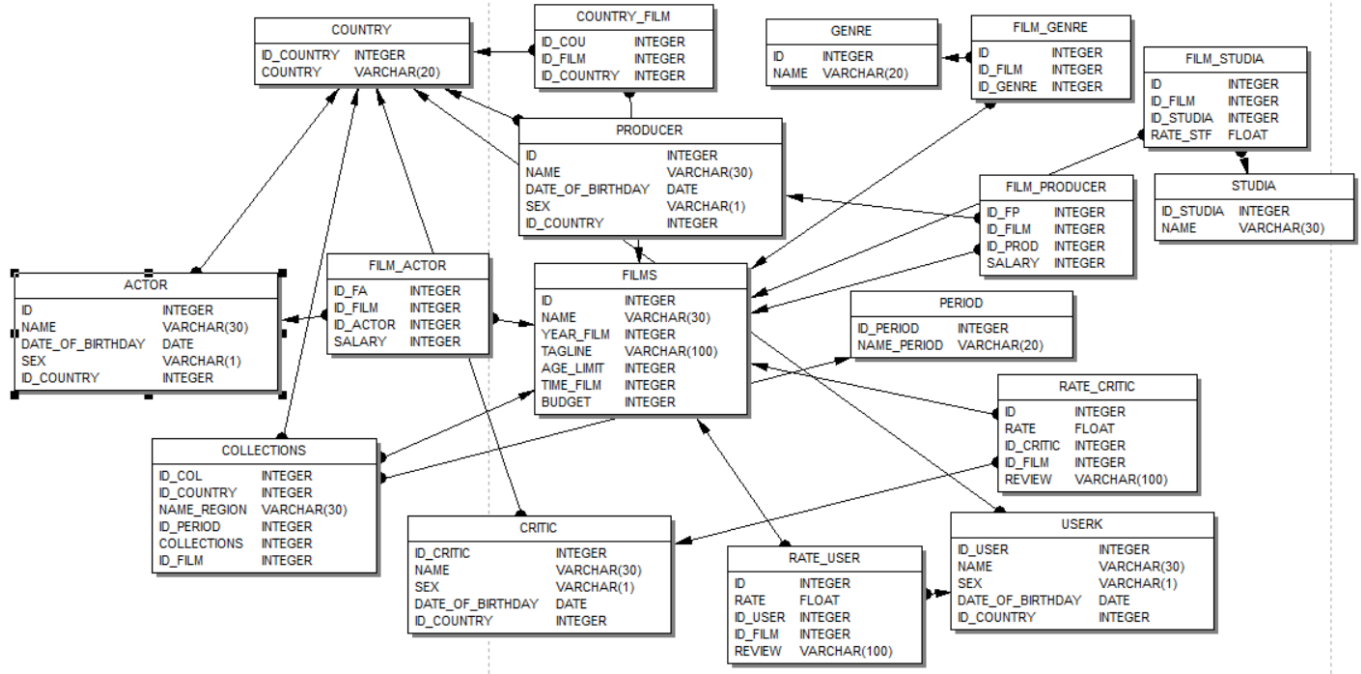
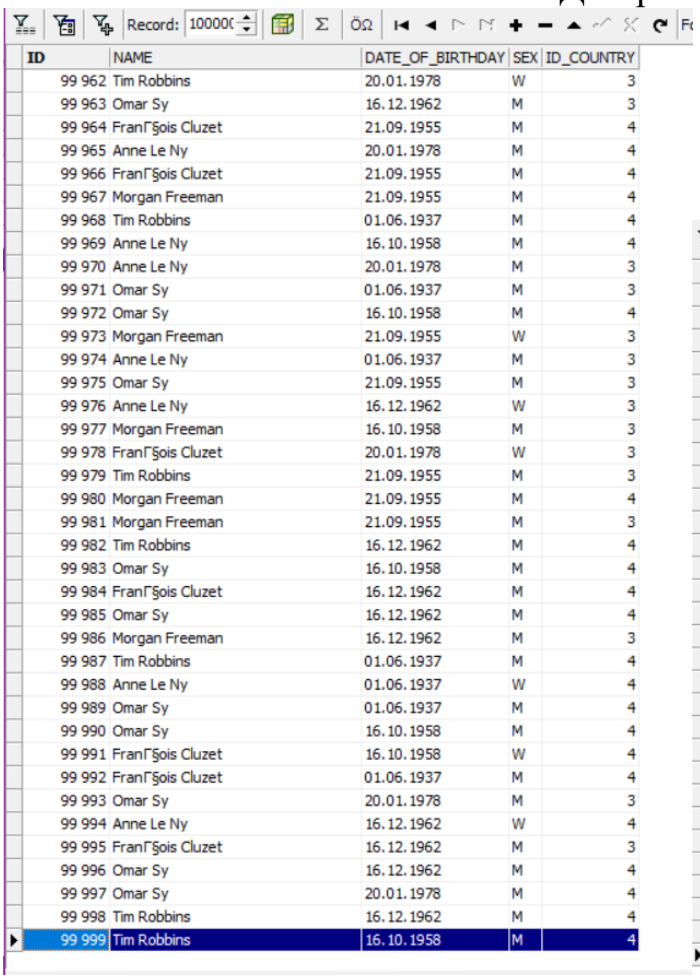
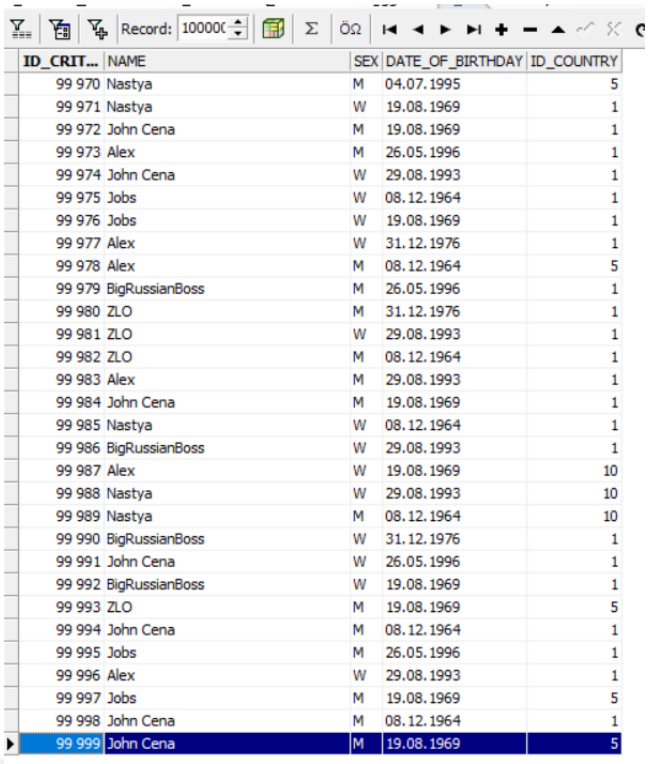


Рис.3.4. Диаграмма базы данных

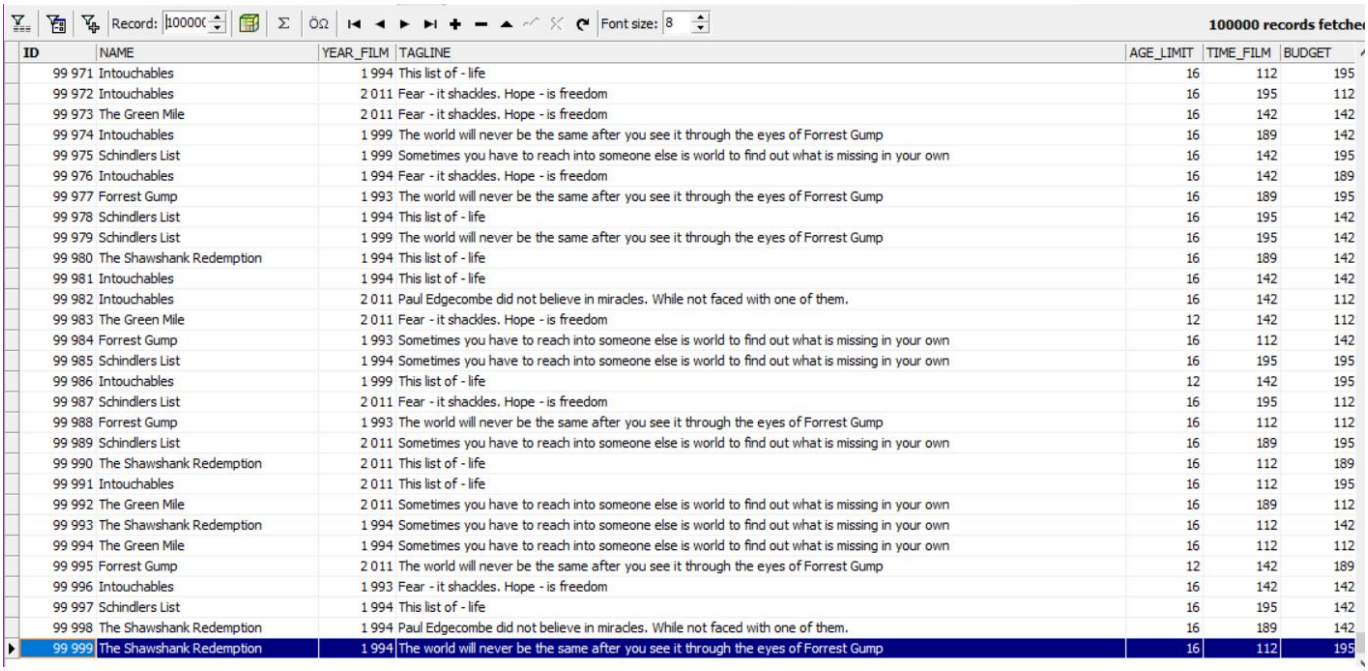


ID	NAME	DATE_OF_BIRTHDAY	SEX	ID_COUNTRY
99 962	Tim Robbins	20.01.1978	W	3
99 963	Omar Sy	16.12.1962	M	3
99 964	FranГ§ois Cluzet	21.09.1955	M	4
99 965	Anne Le Ny	20.01.1978	M	4
99 966	FranГ§ois Cluzet	21.09.1955	M	4
99 967	Morgan Freeman	21.09.1955	M	4
99 968	Tim Robbins	01.06.1937	M	4
99 969	Anne Le Ny	16.10.1958	M	4
99 970	Anne Le Ny	20.01.1978	M	3
99 971	Omar Sy	01.06.1937	M	3
99 972	Omar Sy	16.10.1958	M	4
99 973	Morgan Freeman	21.09.1955	W	3
99 974	Anne Le Ny	01.06.1937	M	3
99 975	Omar Sy	21.09.1955	M	3
99 976	Anne Le Ny	16.12.1962	W	3
99 977	Morgan Freeman	16.10.1958	M	3
99 978	FranГ§ois Cluzet	20.01.1978	W	3
99 979	Tim Robbins	21.09.1955	M	3
99 980	Morgan Freeman	21.09.1955	M	4
99 981	Morgan Freeman	21.09.1955	M	3
99 982	Tim Robbins	16.12.1962	M	4
99 983	Omar Sy	16.10.1958	M	4
99 984	FranГ§ois Cluzet	16.12.1962	M	4
99 985	Omar Sy	16.12.1962	M	4
99 986	Morgan Freeman	16.12.1962	M	3
99 987	Tim Robbins	01.06.1937	M	4
99 988	Anne Le Ny	01.06.1937	W	4
99 989	Omar Sy	01.06.1937	M	4
99 990	Omar Sy	16.10.1958	M	4
99 991	FranГ§ois Cluzet	16.10.1958	W	4
99 992	FranГ§ois Cluzet	01.06.1937	M	4
99 993	Omar Sy	20.01.1978	M	3
99 994	Anne Le Ny	16.12.1962	W	4
99 995	FranГ§ois Cluzet	16.12.1962	M	3
99 996	Omar Sy	16.12.1962	M	4
99 997	Omar Sy	20.01.1978	M	4
99 998	Tim Robbins	16.12.1962	M	4
99 999	Tim Robbins	16.10.1958	M	4



ID_CRIT...	NAME	SEX	DATE_OF_BIRTHDAY	ID_COUNTRY
99 970	Nastya	M	04.07.1995	5
99 971	Nastya	W	19.08.1969	1
99 972	John Cena	M	19.08.1969	1
99 973	Alex	M	26.05.1996	1
99 974	John Cena	W	29.08.1993	1
99 975	Jobs	W	08.12.1964	1
99 976	Jobs	W	19.08.1969	1
99 977	Alex	W	31.12.1976	1
99 978	Alex	M	08.12.1964	5
99 979	BigRussianBoss	M	26.05.1996	1
99 980	ZLO	M	31.12.1976	1
99 981	ZLO	W	29.08.1993	1
99 982	ZLO	M	08.12.1964	1
99 983	Alex	M	29.08.1993	1
99 984	John Cena	M	19.08.1969	1
99 985	Nastya	W	08.12.1964	1
99 986	BigRussianBoss	W	29.08.1993	1
99 987	Alex	W	19.08.1969	10
99 988	Nastya	W	29.08.1993	10
99 989	Nastya	M	08.12.1964	10
99 990	BigRussianBoss	W	31.12.1976	1
99 991	John Cena	W	26.05.1996	1
99 992	BigRussianBoss	W	19.08.1969	1
99 993	ZLO	M	19.08.1969	5
99 994	John Cena	M	08.12.1964	1
99 995	Jobs	M	26.05.1996	1
99 996	Alex	W	29.08.1993	1
99 997	Jobs	M	19.08.1969	5
99 998	John Cena	M	08.12.1964	1
99 999	John Cena	M	19.08.1969	5

Рис. 3.5. Автоматически сгенерированные данные в таблицах «Актеры» и «Критики».



ID	NAME	YEAR_FILM	TAGLINE	AGE_LIMIT	TIME_FILM	BUDGET
99 971	Intouchables	1 994	This list of - life	16	112	195
99 972	Intouchables	2 011	Fear - it shackles. Hope - is freedom	16	195	112
99 973	The Green Mile	2 011	Fear - it shackles. Hope - is freedom	16	142	142
99 974	Intouchables	1 999	The world will never be the same after you see it through the eyes of Forrest Gump	16	189	142
99 975	Schindlers List	1 999	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	142	195
99 976	Intouchables	1 994	Fear - it shackles. Hope - is freedom	16	142	189
99 977	Forrest Gump	1 993	The world will never be the same after you see it through the eyes of Forrest Gump	16	189	195
99 978	Schindlers List	1 994	This list of - life	16	195	142
99 979	Schindlers List	1 999	The world will never be the same after you see it through the eyes of Forrest Gump	16	195	142
99 980	The Shawshank Redemption	1 994	This list of - life	16	189	142
99 981	Intouchables	1 994	This list of - life	16	142	142
99 982	Intouchables	2 011	Paul Edgecombe did not believe in miracles. While not faced with one of them.	16	142	112
99 983	The Green Mile	2 011	Fear - it shackles. Hope - is freedom	12	142	112
99 984	Forrest Gump	1 993	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	112	142
99 985	Schindlers List	1 994	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	195	195
99 986	Intouchables	1 999	This list of - life	12	142	195
99 987	Schindlers List	2 011	Fear - it shackles. Hope - is freedom	16	195	112
99 988	Forrest Gump	1 993	The world will never be the same after you see it through the eyes of Forrest Gump	16	112	112
99 989	Schindlers List	2 011	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	189	195
99 990	The Shawshank Redemption	2 011	This list of - life	16	112	189
99 991	Intouchables	2 011	This list of - life	16	112	195
99 992	The Green Mile	2 011	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	189	112
99 993	The Shawshank Redemption	1 994	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	112	142
99 994	The Green Mile	1 994	Sometimes you have to reach into someone else is world to find out what is missing in your own	16	112	112
99 995	Forrest Gump	2 011	The world will never be the same after you see it through the eyes of Forrest Gump	12	142	189
99 996	Intouchables	1 993	Fear - it shackles. Hope - is freedom	16	142	142
99 997	Schindlers List	1 994	This list of - life	16	195	142
99 998	The Shawshank Redemption	1 994	Paul Edgecombe did not believe in miracles. While not faced with one of them.	16	189	142
99 999	The Shawshank Redemption	1 994	The world will never be the same after you see it through the eyes of Forrest Gump	16	112	195

Рис. 3.6. Автоматически сгенерированные данные в таблице «Фильмы».

4. Выводы

- В лабораторной мы ознакомились с основными командами языка DDL: create, alter, drop, show, insert, select. Отличие DDL в разных СУБД в основном заключаются в типах данных, так же может немного отличаться и сама специфика реализации языка SQL. Владея основами SQL мы можем перейти с одной СУБД на другую, т.к. в данном случае нужно будет только разобраться в деталях реализации команд в новой СУБД.
- При изменении структуры базы данных следует помнить о возможности повредить целостность данных, поэтому все внешние ключи требуют тонкой настройки, а любые изменения структуры – внимательности программиста базы данных.
- Также мы ознакомились с программой IBExpert и с ее помощью мы получили ER-диаграмму созданной БД и сгенерировали 100000 записей в трех таблицах.