Гуцол Ксения, группа М3436

1. **Физическая модель на языке SQL**

```
create table Students (
    id int,
    firstName varchar(30),
    secondName varchar(30),
    group_id int
);

create table Groups (
    id int,
    name varchar(30)
);

create table Professors (
    id int,
    firstName varchar(30),
    secondName varchar(30)
);

create table Subjects (
    id int,
    name varchar(200),
    group_id int,
    professor_id int
);

create table Marks (
    value int,
    student_id int,
    subject_id int
);

alter table Groups
    add constraint group_id_unique unique (id);
alter table Students
    add constraint student_id_unique unique (id);
alter table Professors
    add constraint professor_id_unique unique (id);
alter table Subjects
    add constraint subject_id_unique unique (id);
alter table Marks
    add constraint mark_unique unique (student_id, subject_id);
```

```
alter table Studentss add foreign key (group_id)
    references Groups (id);

alter table Subjects add foreign key (group_id)
    references Groups (id);

alter table Subjects add foreign key (professor_id)
    references Professors (id);

alter table Marks add foreign key (student_id)
    references Students (id);

alter table Marks add foreign key (subject_id)
    references Subjects (id);
```

2. **Операторы SQL, заполняющие базу тестовыми данными**

```
insert into Groups
    (id, name) values
    (1, 'M3438'),
    (2, 'M3439');

insert into Students
    (id, firstName, secondName, group_id) values
    (1, 'Nikita', 'Kaberov', 1),
    (2, 'Dina', 'Ermilova', 2),
    (3, 'Dmitry', 'Yakutov', 2);

insert into Professors
    (id, firstName, secondName) values
    (1, 'Georgiy', 'Korneev'),
    (2, 'Andrew', 'Stankevich');

insert into Subjects
    (id, name, group_id, professor_id) values
    (1, 'databases', 1, 1),
    (2, 'discret math', 1, 2),
    (3, 'databases', 2, 1),
    (4, 'discret math', 2, 2);

insert into Marks
    (value, student_id, subject_id) values
    (5, 1, 1),
    (4, 1, 2),
```

```
(3, 2, 1),
(4, 2, 2);
```