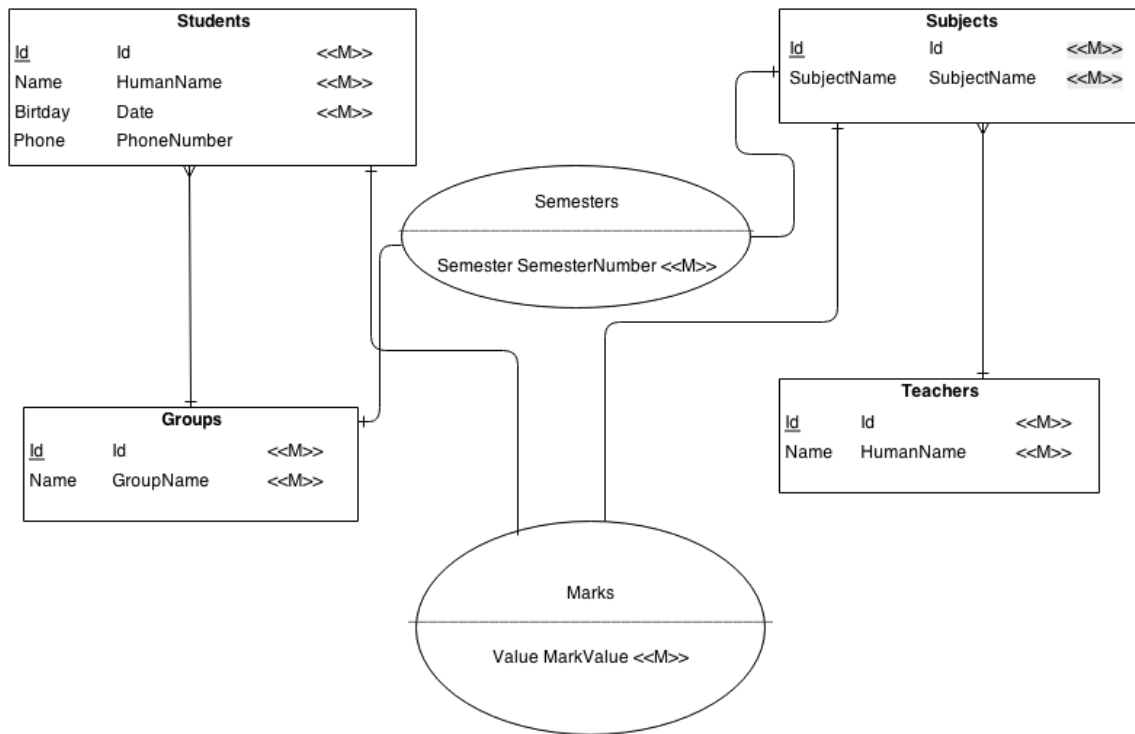
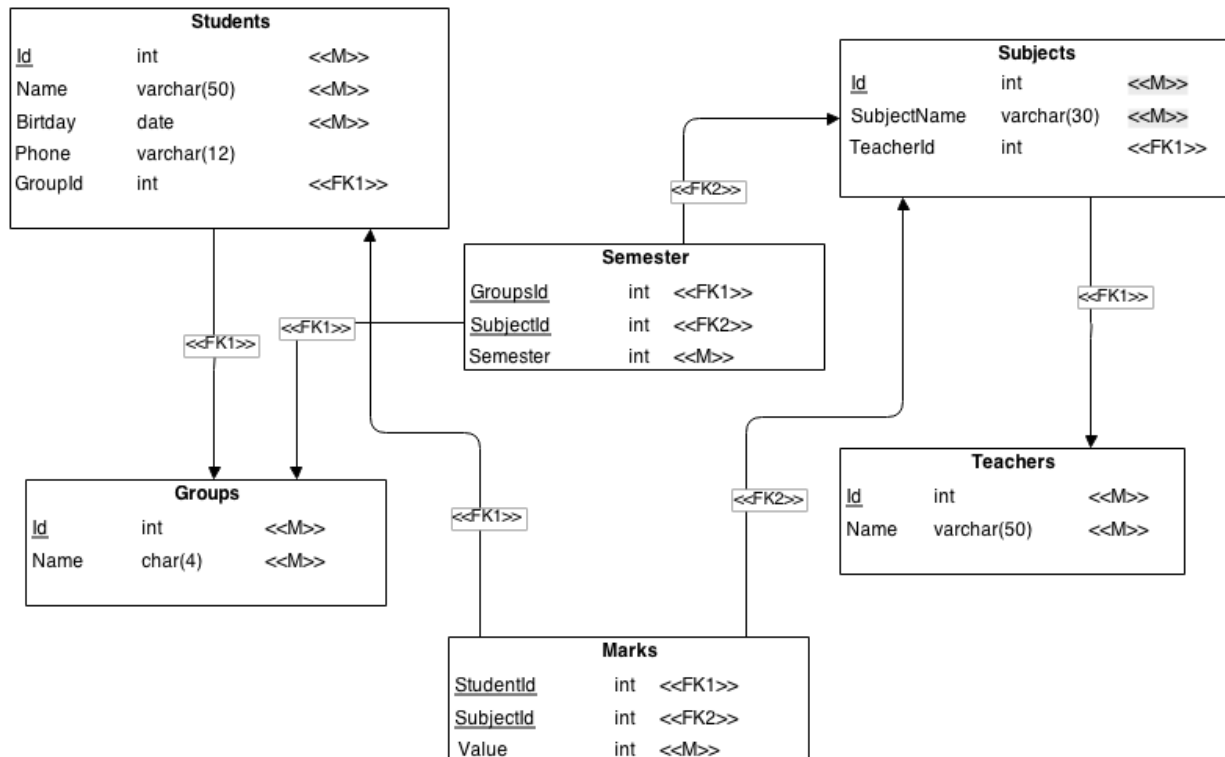


Отчет по домашнему заданию №2

ERM



PDM



Модель на языке SQL

```
create table Groups(  
    Id int PRIMARY KEY,  
    GroupName char(4) NOT NULL  
);  
  
create table Teachers(  
    Id int PRIMARY KEY,  
    Name varchar(50) NOT NULL  
);  
  
create table Subjects(  
    Id int PRIMARY KEY,  
    SubjectName varchar(50) NOT NULL,  
    TeacherId int NOT NULL,  
    FOREIGN KEY (TeacherId) REFERENCES Teachers(Id)  
);  
  
create table Students(  
    Id int PRIMARY KEY,  
    Name varchar(50) NOT NULL,  
    Birthday date NOT NULL,  
    Phone varchar(15),  
    GroupId int NOT NULL,  
    FOREIGN KEY (GroupId) REFERENCES Groups(Id)  
);  
  
create table Marks(  
    StudentId int,  
    SubjectId int,  
    Value int NOT NULL,  
    FOREIGN KEY (StudentId) REFERENCES Students(Id),  
    FOREIGN KEY (SubjectId) REFERENCES Subjects(Id),  
    PRIMARY KEY (StudentId, SubjectId)  
);  
  
create table Semesters(  
    GroupId int,  
    SubjectId int,  
    Semester int NOT NULL,  
    FOREIGN KEY (GroupId) REFERENCES Groups(Id),  
    FOREIGN KEY (SubjectId) REFERENCES Subjects(Id),  
    PRIMARY KEY (GroupId, SubjectId)  
);
```

Тестовые данные

insert into Groups

(Id, GroupName) values

(1, '4537'),

(2, '4538'),

(3, '4539');

insert into Students

(Id, Name, Birthday, Phone, GroupId) values

(1, 'Igor Kolobov', '29/Oct/94', '+79650783351', 1),

(2, 'Ivan Samborsky', '21/Oct/93', '+73150583351', 2),

(3, 'Denis Mekhanikov', '22/Oct/93', '+73150583441', 2),

(4, 'Boris Minaev', '20/Jan/94', '+79650783351', 3);

insert into Teachers

(Id, Name) values

(1, 'Kostya Kokhas'),

(2, 'Andrew Stankevich');

insert into Subjects

(Id, SubjectName, TeacherId) values

(1, 'Mathematical analysis', 1),

(2, 'Complex theory', 2),

(3, 'Discrete maths', 2);

insert into Marks

(StudentId, SubjectId, Value) values

(1, 1, 3),

(1, 2, 4),

(1, 3, 3),

(2, 2, 4),

(3, 3, 5);

insert into Semesters

(GroupId, SubjectId, Semester) values

(1, 1, 1),

(2, 1, 2),

(2, 2, 1),

(3, 1, 1),

(3, 2, 2),

(3, 3, 3);

Тестирование

1. Оценки Игоря Колобова

Input:

```
select Students.Name, Marks.Value from Marks
inner join Students
on Marks.StudentId=Students.Id and Students.Id = 1;
```

Output:

name		value
Igor Kolobov		3
Igor Kolobov		4
Igor Kolobov		3

(3 rows)

2. Расписание для преподавателя Andrew Stankevich

Input:

```
select Teachers.Name, Groups.GroupName, Subjects.SubjectName,
Semesters.Semester from Semesters
inner join Subjects
on Semesters.SubjectId=Subjects.Id
inner join Groups
on Semesters.GroupId=Groups.Id
inner join Teachers
on Teachers.Id=Subjects.TeacherId and Teachers.Id = 2;
```

Output:

name		groupname		subjectname		semester
Andrew Stankevich		4538		Complex theory		1
Andrew Stankevich		4539		Complex theory		2
Andrew Stankevich		4539		Discrete maths		3

(3 rows)

3. Расписание группы 4539 за все семестры

Input:

```
select Groups.GroupName, Subjects.SubjectName,  
Semesters.Semester from Semesters  
inner join Groups  
on Semesters.GroupId=Groups.Id  
inner join Subjects  
on Semesters.SubjectId=Subjects.Id and Groups.Id = 3;
```

Output:

groupname	subjectname
4537	Mathematical analysis
4538	Complex theory
4539	Mathematical analysis

(3 rows)