

Group 12: Pony Riding

Task 1:

In summer holidays Pony Riding is famous for children and you can find many schools and places for riding. We are going to implement Pony Riding School database. The school owns Ponies for lessons. There are three trainers at the school to teach. There are several courses to become a good rider. Visitor also has a chance to try a ride on pony,

A possible list of entity sets for pony riding school is:

Trainer
Pony
Course
Trainee
Visitor

Task 2:

Attributes:

Single value attributes:

- shoe size
- Gender
- Social security number

Composite attributes:

- Name (First name & Last name)
- Address(Street, city, postcode)

Multivalued attributes:

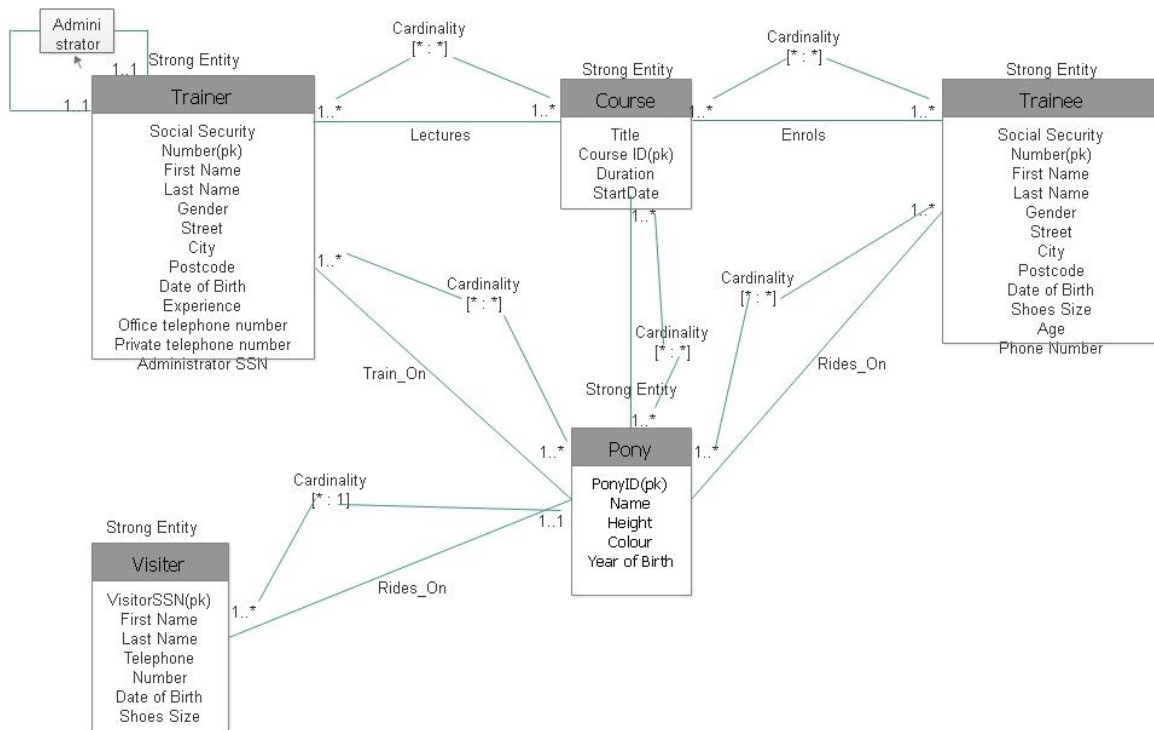
- Office telephone number
- Private telephone number

Derived attributes:

- No drive

Attributes on relationships:

Entity Relationship Diagram:



Strong and Weak Entities:

We have mentioned on diagram which are strong entities.

Keys:

Candidate key:

- First name & Last name

Primary key:

- Social security number
- CourseID
- PonyID

Composite key:

- Name (First name, last name) and Address (Street, City, Postcode)

Specialization/Generalization:

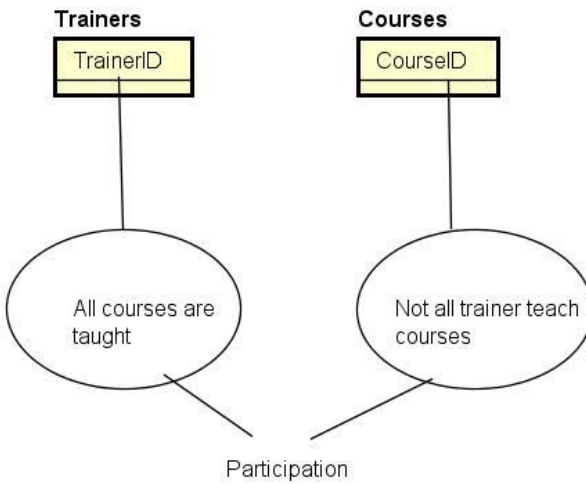
Super class:

- No super class

Subclass:

- No sub classes

Participation constraints:



Disjoint constraint:

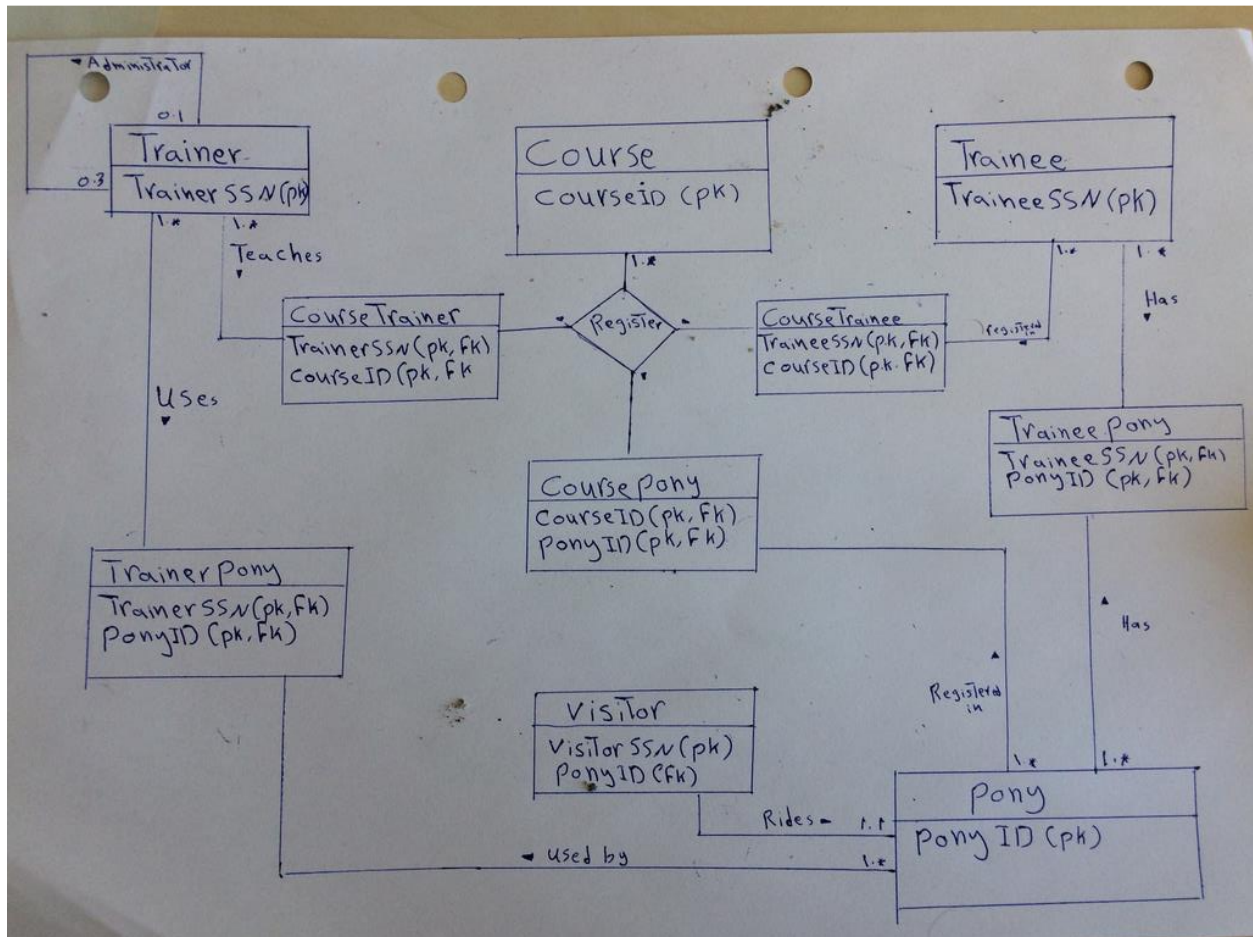
No disjoint

Table for domain

Table for domain are also mentioned in Entity Relation Diagram

Task 3:

Logical Database Design



Task 4:

```
create schema "Pony ride";
set search_path = 'Pony ride';
create domain Gender AS char(1) check(value in ('M', 'F'));
```

```
CREATE TABLE Trainer (
    TrainerSSN varChar(20) NOT NULL,
    FirstName VARCHAR(30) NOT NULL,
    LastName VARCHAR(30) NOT NULL,
    Gender CHAR(1) NOT NULL,
    Street VARCHAR(30) NOT NULL,
    City VARCHAR(20) NOT NULL,
    PostCode VARCHAR(10) NOT NULL,
    dob VARCHAR(8) NOT NULL,
    Experience varChar(2) NOT NULL,
    OfficeTeleNumbr VARCHAR(20) NOT NULL,
    PrivateTeleNumbr VARCHAR(20) NOT NULL,
    AdministratorSSN VARCHAR(20),

    CONSTRAINT Trainerpk PRIMARY KEY(TrainerSSN)
);
```

```
CREATE TABLE Trainee (
    TraineeSSN varChar(20) NOT NULL,
    FirstName VARCHAR(30) NOT NULL,
    LastName VARCHAR(30) NOT NULL,
    Gender CHAR(1) NOT NULL,
    Street VARCHAR(30) NOT NULL,
    City VARCHAR(20) NOT NULL,
    PostCode VARCHAR(20) NOT NULL,
    dob VARCHAR(20) NOT NULL,
    ShoeSize VARCHAR (2) NOT NULL,
    PhoneNumber VARCHAR(20) NOT NULL,
    CONSTRAINT Traineepk PRIMARY KEY(TraineeSSN)
);
```

```
CREATE TABLE Pony (
    PonyID varChar (6) NOT NULL,
    PonyName VARCHAR(10) NOT NULL,
    Height VARCHAR(3) NOT NULL,
    Colour varChar(10) NOT NULL,
    YoB VARCHAR(4) NOT NULL,
    CONSTRAINT Ponypk PRIMARY KEY(PonyID)
);
```

```
CREATE TABLE Course (
    Title varChar(20) NOT NULL,
    CourseID VARCHAR(6) NOT NULL,
    Duration Integer NOT NULL,
    DurationUnit VarChar(5) NOT NULL,
    StartDate date NOT NULL,
    CONSTRAINT Coursepk PRIMARY KEY(CourseID)
);
```

```
CREATE TABLE Visitor (
    VisitorSSN varChar(20) NOT NULL,
    FirstName VARCHAR(30) NOT NULL,
    LastName VARCHAR(30) NOT NULL,
    dob VARCHAR(20) NOT NULL,
```

```

ShoeSize VARCHAR (2) NOT NULL,
PhoneNumber VARCHAR(20) NOT NULL,
PonyID varChar (6) NOT NULL,
CONSTRAINT Visitorpk PRIMARY KEY(VisitorSSN),
CONSTRAINT Visitorfk FOREIGN KEY (PonyID) REFERENCES Pony(PonyID)
);

CREATE TABLE TraineePony (
    TraineeSSN varChar (20) NOT NULL,
    PonyID varChar (6) NOT NULL,
    CONSTRAINT Traineepony_fk FOREIGN KEY (TraineeSSN) REFERENCES Trainee(TraineeSSN),
    CONSTRAINT Ponytrainee_fk FOREIGN KEY (PonyID) REFERENCES Pony(PonyID)
);

CREATE TABLE PonyTrainer (
    TrainerSSN varChar (20) NOT NULL,
    PonyID varChar (6) NOT NULL,
    CONSTRAINT Trainerponyfk FOREIGN KEY (TrainerSSN) REFERENCES Trainer(TrainerSSN),
    CONSTRAINT Ponytrainerfk FOREIGN KEY (PonyID) REFERENCES Pony(PonyID)
);

CREATE TABLE TraineeCourse (
    TraineeSSN varChar (20) NOT NULL,
    CourseID varChar (6) NOT NULL,
    CONSTRAINT Traineecoursefk FOREIGN KEY (TraineeSSN) REFERENCES Trainee(TraineeSSN),
    CONSTRAINT coursetrainee_fk FOREIGN KEY (CourseID) REFERENCES Course(CourseID)
);

CREATE TABLE CourseTrainer (
    CourseID varChar (20) NOT NULL,
    TrainerSSN varChar (20) NOT NULL,
    CONSTRAINT Trainercoursefk FOREIGN KEY (TrainerSSN) REFERENCES Trainer(TrainerSSN),
    CONSTRAINT coursetrainerfk FOREIGN KEY (CourseID) REFERENCES Course(CourseID)
);

CREATE TABLE PonyCourse (
    CourseID varChar (6) NOT NULL,
    PonyID varChar (6) NOT NULL,
    CONSTRAINT ponycoursefk FOREIGN KEY (PonyID) REFERENCES Pony(PonyID),
    CONSTRAINT courseponyfk FOREIGN KEY (CourseID) REFERENCES Course(CourseID)
);

INSERT INTO trainer VALUES ('SSN1234', 'Oskars', 'McDonald', 'M', 'Burbon', 'London', 'GB2341', '05121993', '2', '4550447799',
'4577774444', 'SSN11111111');
INSERT INTO trainer VALUES ('SSN1235', 'John', 'Travolta', 'M', 'Turtle', 'Copenhagen', 'DK6341', '12011992', '4', '4522114433',
'4577775522', 'SSN11111111');
INSERT INTO trainer VALUES ('SSN1236', 'Curt', 'Cobain', 'M', 'Cup', 'Latvia', 'LV2105', '28052011', '1', '4599887766',
'4577880000', 'SSN11111111');
INSERT INTO trainer VALUES ('SSN1237', 'Linda', 'Leen', 'F', 'Concreet', 'Germany', 'GR2222', '15071991', '5', '4599775533',
'4577882200', 'SSN11111111');

INSERT INTO trainee VALUES ('SSN4332', 'Dave', 'Schapel', 'M', 'Freedome', 'Berlin', 'CA2312', '01042000', '7', '4589785634');
INSERT INTO trainee VALUES ('SSN4312', 'Gabriel', 'Iglessias', 'M', 'Strogonov', 'Moscow', 'MO2212', '01042000', '8',
'4599125634');
INSERT INTO trainee VALUES ('SSN4342', 'Lui', 'CeeKey', 'M', 'Pixel', 'Berlin', 'BA9912', '01042000', '12', '4589780071');
INSERT INTO trainee VALUES ('SSN4842', 'Samantha', 'Burton', 'F', 'Palikon', 'Jordan', 'JO0312', '9', '5', '4509077712');

INSERT INTO visitor VALUES ('SSN9114', 'Oliver', 'Birdman', '04121966', '12', '4512233445', 'P12345');
INSERT INTO visitor VALUES ('SSN9111', 'Saruman', 'Chip', '11111945', '10', '4598127489', 'P12346');
INSERT INTO visitor VALUES ('SSN9134', 'Benji', 'Potter', '25041974', '9', '4511026493', 'P12347');
INSERT INTO visitor VALUES ('SSN9166', 'Ronald', 'Kimster', '09021986', '11', '4511663487', 'P12348');

```

```

INSERT INTO course VALUES ('Begginner', 'BC1993', 3, 'week', '2018-04-20');
INSERT INTO course VALUES ('Advanced', 'AC1991', 2, 'week', '2018-04-25');
INSERT INTO course VALUES ('Expert', 'EC1993', 2, 'Month', '2018-04-30');
INSERT INTO course VALUES ('Master', 'MC1993', 1, 'Month', '2018-04-29');

```

```

INSERT INTO pony VALUES ('P12345', 'Sugar', '130', 'green', '1993');
INSERT INTO pony VALUES ('P12346', 'Spice', '132', 'red', '1994');
INSERT INTO pony VALUES ('P12347', 'Pilsner', '120', 'purple', '1992');
INSERT INTO pony VALUES ('P12348', 'Rock', '140', 'yellow', '1995');

```

```

INSERT INTO coursetrainer VALUES ('BC1993', 'SSN1234');
INSERT INTO coursetrainer VALUES ('AC1991', 'SSN1235');
INSERT INTO coursetrainer VALUES ('EC1993', 'SSN1236');
INSERT INTO coursetrainer VALUES ('MC1993', 'SSN1237');

```

```

INSERT INTO ponycourse VALUES ('BC1993', 'P12345');
INSERT INTO ponycourse VALUES ('AC1991', 'P12346');
INSERT INTO ponycourse VALUES ('EC1993', 'P12347');
INSERT INTO ponycourse VALUES ('MC1993', 'P12348');

```

```

INSERT INTO ponytrainer VALUES ('SSN1234', 'P12345');
INSERT INTO ponytrainer VALUES ('SSN1235', 'P12346');
INSERT INTO ponytrainer VALUES ('SSN1236', 'P12347');
INSERT INTO ponytrainer VALUES ('SSN1237', 'P12348');

```

```

INSERT INTO traineecourse VALUES ('SSN4332', 'BC1993');
INSERT INTO traineecourse VALUES ('SSN4312', 'AC1991');
INSERT INTO traineecourse VALUES ('SSN4342', 'EC1993');
INSERT INTO traineecourse VALUES ('SSN4842', 'MC1993');

```

```

INSERT INTO traineepony VALUES ('SSN4332', 'P12345');
INSERT INTO traineepony VALUES ('SSN4332', 'P12346');
INSERT INTO traineepony VALUES ('SSN4332', 'P12347');
INSERT INTO traineepony VALUES ('SSN4332', 'P12348');

```

Queries

```
select * from trainee;
```

```
select * from trainee where city='berlin';
```

```
select FirstName, LastName, gender from trainer Where gender LIKE '%M%'
order by experience;
```

```
select experience, PrivateTeleNumbr from trainer
where courseID= (select courseID from Course
where title = 'expert');
```

```
Update course set duration = duration*2;
```

```
select courseID, count(ponyId) as countPony from Pony p, Course c
where p.courseID=c.courseId and
colour='yellow'
```

group by courseId;