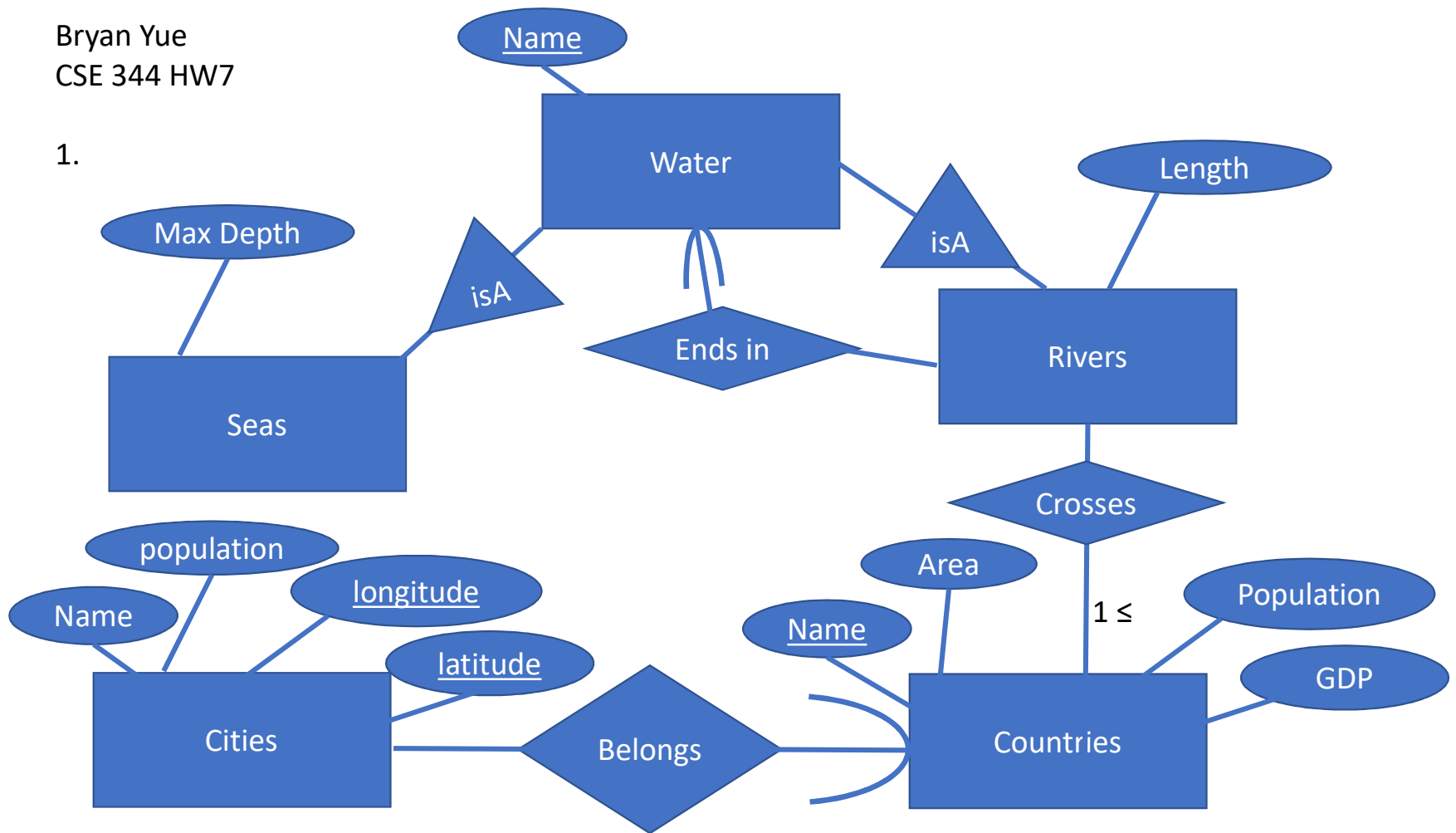


Bryan Yue  
CSE 344 HW7

1.



2a.

```
CREATE TABLE InsuranceCo (  
    name VARCHAR(20),  
    phone INT,  
    PRIMARY KEY(name)  
);  
  
CREATE TABLE Vehicle (  
    licensePlate VARCHAR(20),  
    year INT,  
    PRIMARY KEY(licensePlate)  
);  
  
CREATE TABLE Insures (  
    name VARCHAR(20),  
    licensePlate VARCHAR(20),  
    maxLiability REAL,  
    FOREIGN KEY(name) REFERENCES InsuranceCo(name),  
    FOREIGN KEY(licensePlate) REFERENCES Vehicle(licensePlate),  
    UNIQUE(licensePlate)  
);  
  
CREATE TABLE Car (  
    make VARCHAR(20),  
    licensePlate VARCHAR(20),  
    FOREIGN KEY(licensePlate) REFERENCES Vehicle(licensePlate),  
    UNIQUE(licensePlate)  
);  
  
CREATE TABLE Truck (  
    capacity VARCHAR(20),  
    licensePlate VARCHAR(20),  
    FOREIGN KEY(licensePlate) REFERENCES Vehicle(licensePlate),  
    UNIQUE(licensePlate)  
);  
  
CREATE TABLE Person (  
    ssn INT,  
    name VARCHAR(20),  
    PRIMARY KEY(ssn)  
);
```

2a.

```
CREATE TABLE Owns (  
    licensePlate VARCHAR(20),  
    ssn INT,  
    FOREIGN KEY(licensePlate) REFERENCES Vehicle(licensePlate),  
    FOREIGN KEY(ssn) REFERENCES Person(ssn),  
    UNIQUE(licensePlate)  
);  
  
CREATE TABLE Driver (  
    ssn INT,  
    driverID INT,  
    FOREIGN KEY(ssn) REFERENCES Person(ssn),  
    UNIQUE(ssn);  
);  
  
CREATE TABLE NonProfessionalDriver (  
    ssn INT,  
    FOREIGN KEY(ssn) REFERENCES Driver(ssn),  
    UNIQUE(ssn)  
);  
  
CREATE TABLE Drives (  
    licensePlate VARCHAR(20),  
    ssn int,  
    FOREIGN KEY(licensePlate) REFERENCES Car(licensePlate),  
    FOREIGN KEY(ssn) REFERENCES NonProfessionalDriver(ssn)  
);  
  
CREATE TABLE ProfessionalDriver (  
    ssn INT,  
    medicalHistory VARCHAR(20),  
    FOREIGN KEY(ssn) REFERENCES Driver(ssn),  
    UNIQUE(ssn)  
);  
  
CREATE TABLE Operates (  
    licensePlate VARCHAR(20),  
    ssn int,  
    FOREIGN KEY(licensePlate) REFERENCES Truck(licensePlate),  
    FOREIGN KEY(ssn) REFERENCES ProfessionalDriver(ssn),  
    UNIQUE(licensePlate)  
);
```

2b. The insures table in my schema represents the relationship “insures” in the ER diagram. I have a max liability attribute since this is an attribute on the insures relation. I have name as a foreign key to the name of the insurance company table. I also have license plate as a foreign key to the license plate of the vehicle table. License plate is constrained as unique because each vehicle can have at most one insurance company.

2c. Besides Drives connecting different entities compared to Operates, Drives is a many to many relation whereas Operates is a many-to-one relation. Cars can have more than one non professional driver, and each non professional driver can have more than one car. There is at most one Professional Driver per truck, but each professional driver can have more than one truck.