**Relational Models**

**Instructions:**

In this assignment, you will be asked to explain Relations, and to convert an ERD to a Relational Model.

After you finish your answers, you can move forward to the solutions. You need to compare the solutions with your answers, and summarize your learning experience. The **learning summary** will be peer reviewed as your grade for Assignment 1. You can find detailed instructions for the learning summary later on.

**Question 1: Understand A Relation**

Read the following relation represented as a table and answer the questions.

A close-up of a table

Description automatically generated

What is the name of this relation: **MotorVehicleCollisions**

What is the degree of this relation: **11** (**# of attributes**)

What is the cardinality of this relation: **9** (**# of tuples**)

What might be the primary key of this relation: **Collision\_ID**

What is the domain of ZIP CODE: **5 digit number**

What is the domain of CRASH DATE: **Dates in format “mm/dd/yyyy”**

**Question 2: Interpret an ERD**

Translate the ERAD to a Relational Model. Make sure you represent the Relational Model by a set of Relational Schemas, and explicitly represent the primary key(s) and foreign key(s).

A diagram of a computer

Description automatically generated

**Answer**:

* Cars (CarID, Manufacturer, Model, Year, EmployeeID)
* Cars\_Drivers (CarID (fk), EmployeeID (fk))
* Drivers (Name, EmployeeID, SSN, DoB, Phone, MentorID (fk), DivisionName (fk))
* Drivers\_Friends (EmployeeID (fk), FriendID (fk))
* Division (DivisionName, Location, Phone, Email)
* Dependents (ID, Name, Gender, DoB, EmployeeID (fk))