CSCI 620 Introduction of Big Data
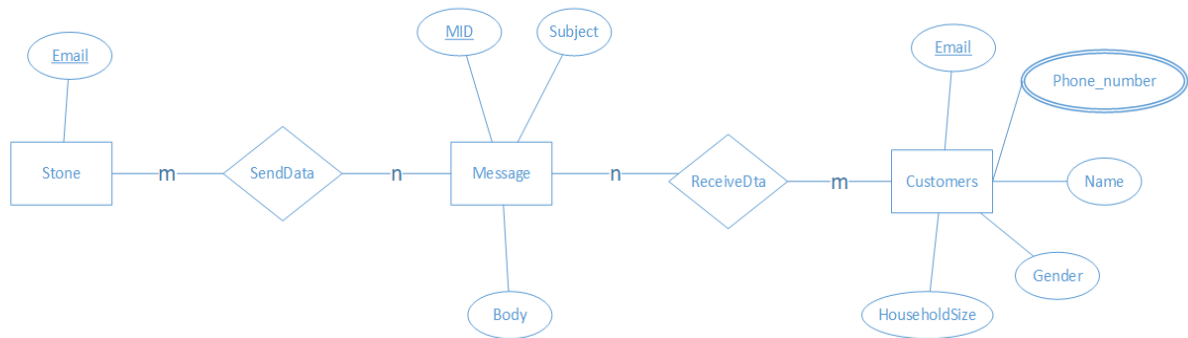
Homework 1 Database Design
due Feb 4th

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Question 1:

ER Model:

Relational Schema:
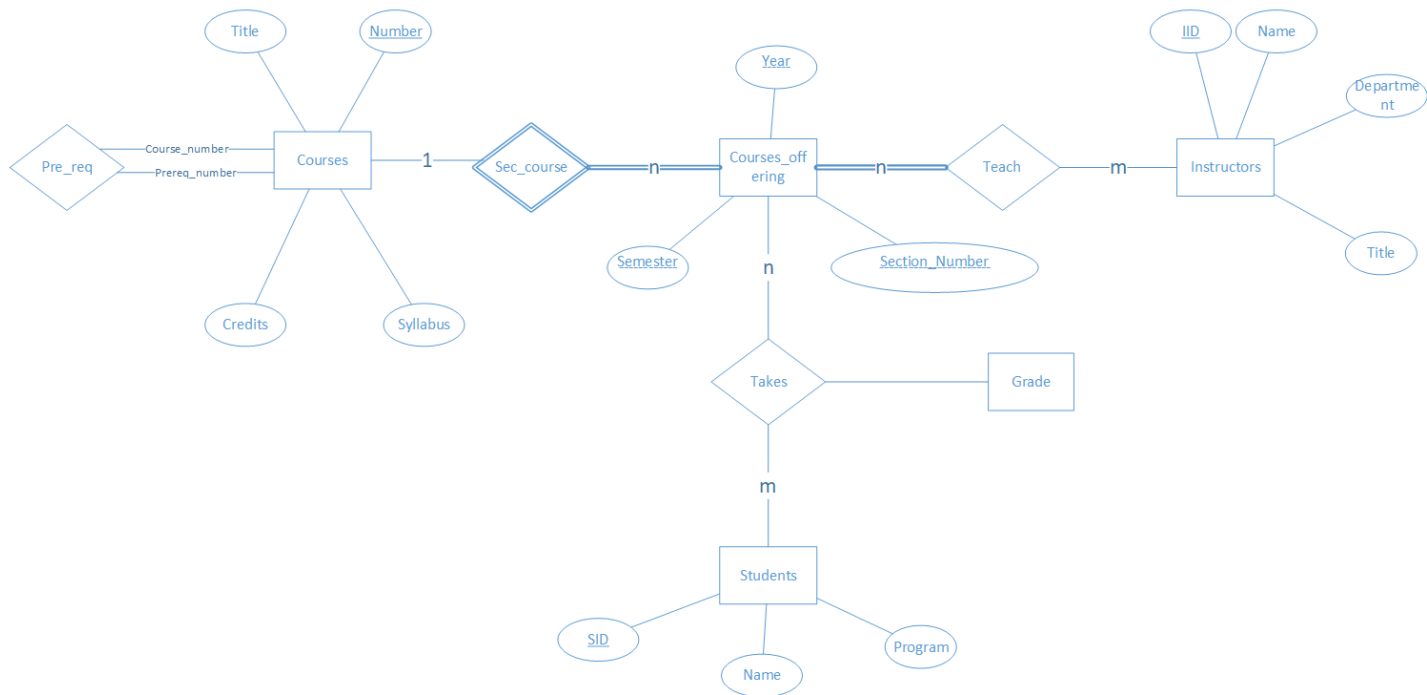
Store (Email)

Message (MID, Subject, Body)

Customers (Email, Phone_number, Name, Gender, HouseHoldSize)

Phone_number (Email, phone_number) FK1: Email

SendDate (Email, MID) FK1: Email; FK2: MID

ReceiveData (MID, Email) FK1: MID; FK2: Email

Question 2:

Courses (<u>Number</u>, Title, Syllabus, Credits)

Courses_offering (<u>Number</u>, <u>Year</u>, <u>semester</u>, <u>section_number</u>)

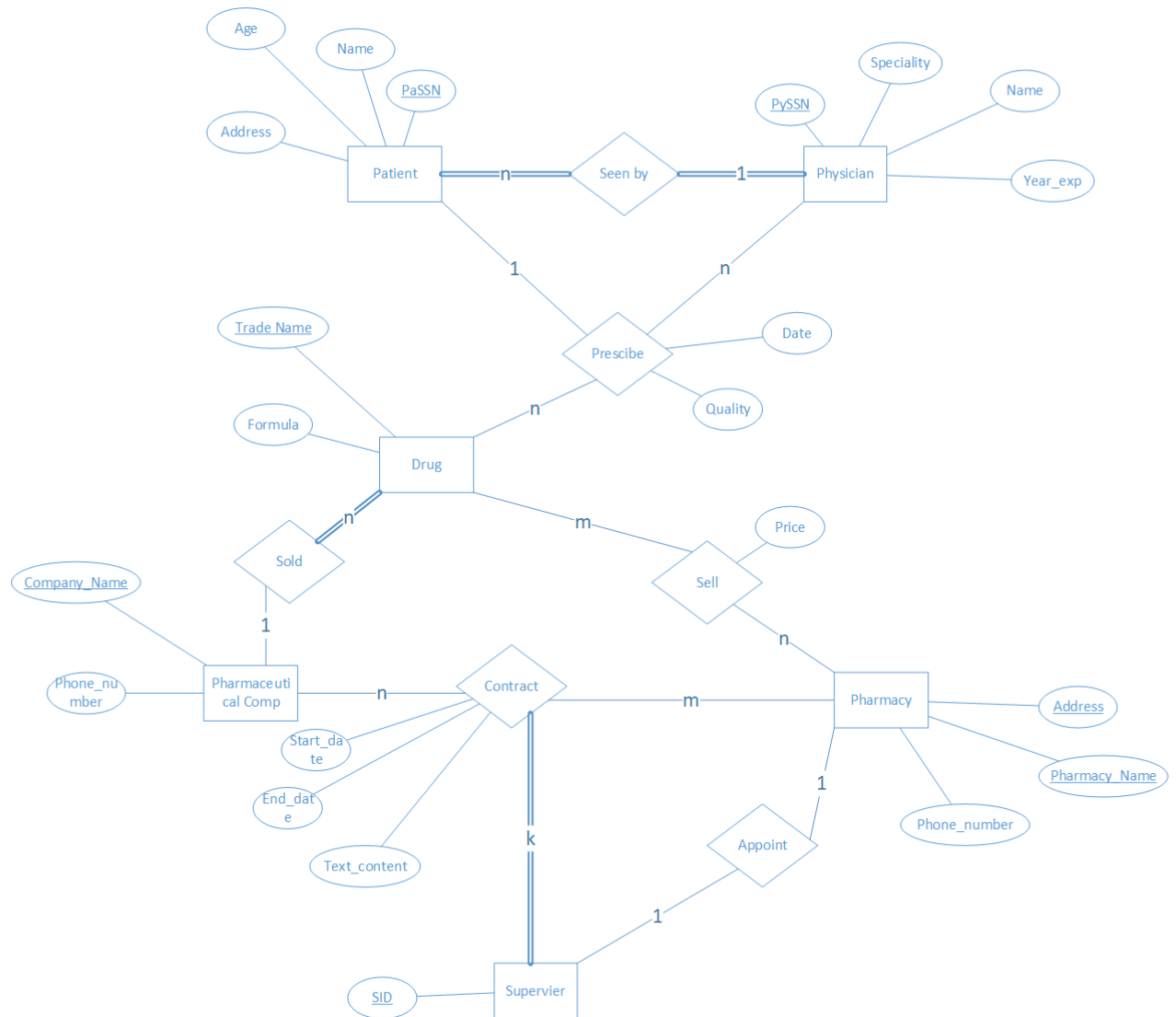Instructor (<u>ID</u>, Name, Department, Title)

Students (<u>ID</u>, Name, Program)

Pre_req (<u>Course_number</u>, <u>Prereq_number</u>) FK1: Course_number; FK2: Prereq_number

Sec_courses (<u>Number</u>, <u>Year</u>, <u>Semester</u>, <u>Sec_number</u>) FK1: Number

Teach (<u>Number</u>, <u>Year</u>, <u>Semester</u>, <u>Sec_number</u>, <u>IID</u>) FK1: IID; FK2: Number, Year, Semester, Sec_number

Takes (<u>Number</u>, <u>Year</u>, <u>Semester</u>, <u>Sec_number</u>, <u>SID</u>, Grade) FK1: SID, FK2: Number, Year, Semester, Sec_number

Question 3:

Patient (PaSSN, Name, Age, Address)

Physician (PySSN, Speciality, Name, Year_exp)

Drug (Trade name, Formula)

Pharmaceutical Company (Company_Name, Phone_number)

Pharmacy (Pharmacy_Name, Address, Phone_number)

Supervisor (SID)

Seenby (PaSSN, PySSN) FK1: PaSSN, FK2: PySSN

Prescribe (PaSSN, PySSN, Trade Name, Date, Quality) FK1: PaSSN, FK2: PySSN, FK3: Trade Name

Sold (Company_Name, Trade Name) FK1: Name; FK2: Trade Name

Sell (<u>Trade Name</u>, <u>Pharmacy_Name</u>, <u>Address</u>, <u>Phone_number</u>) FK1: Pharmacy_Name, Address, Phone_number; FK2: Trade Name

Contract (<u>Company_Name</u>, <u>Pharmacy_Name</u>, <u>Address</u>, <u>Phone_number</u>, <u>SID</u>) FK1: Pharmacy_Name, Address, Phone_number; FK2: Company_Name; FK3: SID

Appoint (<u>Pharmacy_Name</u>, <u>Address</u>, <u>Phone_number</u>, <u>SID</u>) FK1: Pharmacy_Name, Address, Phone_number; FK2: SID