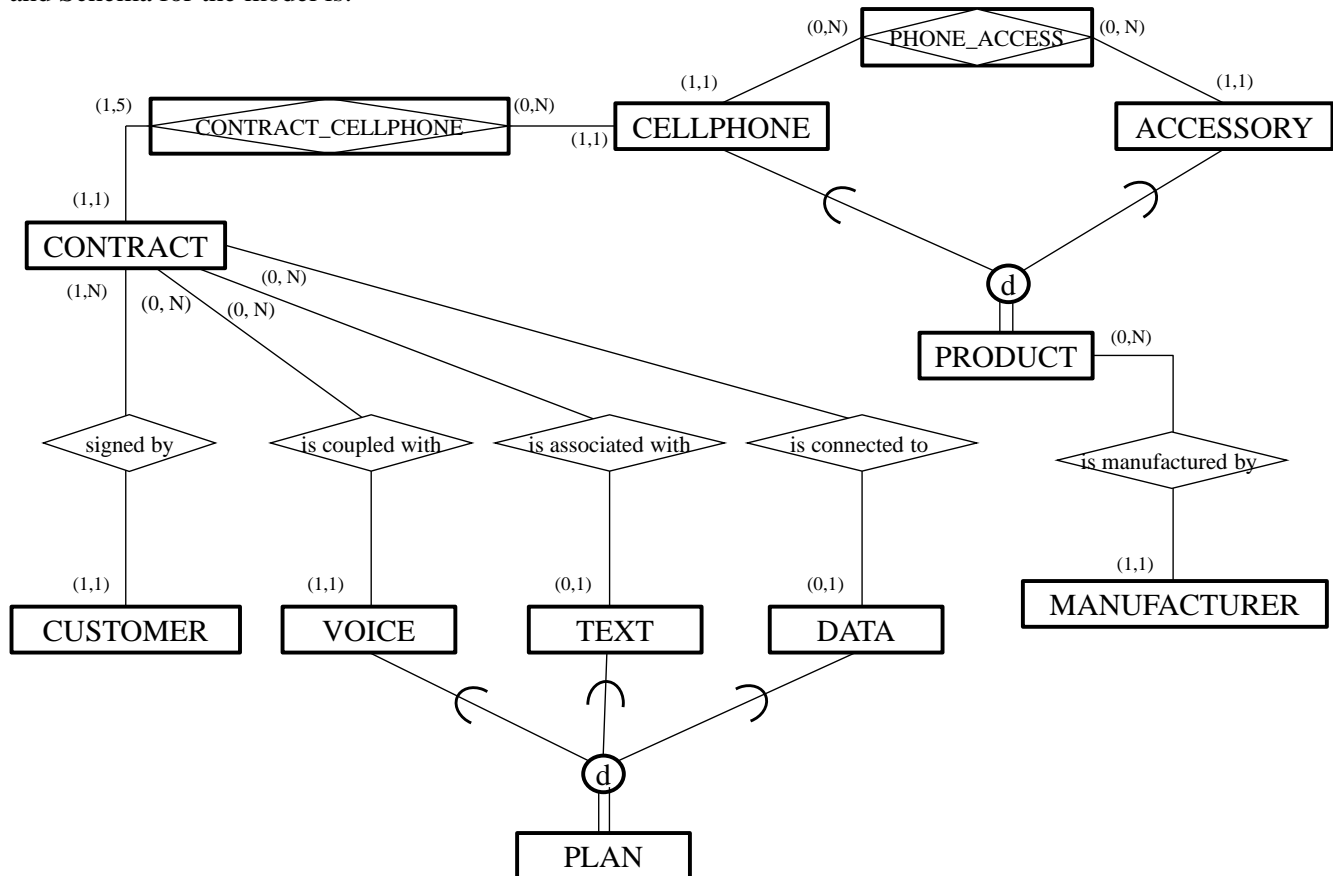


## 95 – 703 A: Database Management

### SQL #1 (hardcopy due on October 27, in class before the lecture starts)

Turn in a well formatted printout of your SQL statements as they were executed in the SQL\*Plus environment and the results of running each statement. Set the *LINESIZE* and *PAGESIZE* values optimally to ensure that there are no wrapping lines or repeated column headers in the results (for further formatting tips refer to the “**Formatting SQL Output**” document available on the class blackboard). Identify each answer clearly. Each question should be answered by a single SQL statement unless requested otherwise. Use only the SQL concepts covered in class so far. A readable, understandable, and well formatted assignment will get additional **5 points**.

CellTell, a cellular phone service provider, offers cell phone service contracts to their customers. They have an information system that stores the details about these contracts, selected plans, phones, and accessories. ERD and Schema for the model is:



**CUSTOMER** (ID, Lname, Fname, Street, City, ZipCode, State, Phone, CreditScore, Credit\_Org, CS\_Date)

**PLAN** (Plan\_ID, Start\_Date, End\_Date, BasePrice, Plan\_Type)

**VOICE** (vPlan\_ID@, NumMin, HasVoiceMail, HasThreeWay, OverageFee)

**TEXT** (tPlan\_ID@, TextLimit, HasMMS, MmsOverage, TextOverage)

**DATA** (dPlan\_ID@, DataLimit, NetworkTechnology, OverageFee)

**CONTRACT** (Contract\_ID, Customer\_ID@, vPlan\_ID@, tPlan\_ID@, dPlan\_ID@, Start\_Date, End\_Date, DiscountPerc)

**MANUFACTURER** (Manuf\_ID, Manuf\_Name, Contact\_Lname, Contact\_Fname, Contact\_Phone, Contact\_Email)

**PRODUCT** (Product\_ID, Name, Manuf\_ID@, CostPaid, BasePrice, Type)

**CELLPHONE** (Phone\_ID@, Model, NetworkTechnology, OS)

**ACCESSORY** (Access\_ID@, Category)

**PHONE\_ACCESS** (Phone\_ID@, Access\_ID@)

**CONTRACT\_CELLPHONE** (Contract\_ID@, Phone\_ID@, Seq#, PaidPrice, ESN)

The script (titled **CellTell\_SQL1.txt**) needed to create the CellTell database is provided on the class Blackboard site. Download the script, create the database, and answer the questions below.

## Part I. Database Maintenance

1. CellTell would like to add website information about the manufacturers of products they sell. Add a new column named “Website” to the manufacturer table. Then, for each manufacturer add their website information.
2. Add complete information on three new cell-phones and associate each of the new cellphones with two existing accessories (i.e., accessories we already have in the database). Search the Internet to find the information you need on currently available new cell-phones. All the values in each insert statement are to be provided.

## Part II. Queries (based on the results of Part I)

1. CellTell wishes to reach out to its high-end customers. So it needs to know ‘active’ customer who ever purchased a cellphone with a price more than \$300. List the customer id, his/her name, the phone they have (i.e., model), price of the phone, and the manufacturer (ID and Name). Order the result by the manufacturer and then by model.
2. List customers (id, first name and last name) who have opted for voice, text, and data in their individual contracts. Use a set operation. Include the start and end dates of the contracts.
3. List the id, first name, last name of customers who have an active plan (not terminated) with an overage fee higher than 0.1. This time do not use any set operation.
4. List id, first name, last name, phone id, and phone model for those customers that have a data plan with a phone that has network technology of 3G.
5. CellTell wishes to promote its data plan. Therefore, they wish to know who has a phone with data capability, but has not signed up for a data plan. List customer ID, name, address, and phone number.
6. List the cellphones that Peter Smith has purchased from CellTell. Include manufacturer name in the output (or cellphone’s brand).
7. The company would like to send promotional offers on upcoming 4G data plans to their current customers from Erie, Pennsylvania who do not have a data plan. List their id, name, and address.
8. List voice plans of active customers from New York City. Include customers’ names as well as the plan information.
9. Understanding the customers is very important for any business. List id and name of customers who have selected the data plans or text plans within past one year and are still active customers. Also include the “Limit” of each plan and an indicator column with value that would identify type of the selected plan (i.e. “Text” or “Data”).