COMP 353 – ASSIGNMENT 3 – KEVIN MCALLISTER (40031326)

Q1.

**TABLES:**

**TREATMENT** (disease, medication)

**PERSON** (SSN, firstName, lastName, phone, email, address, city, province)

**PATIENT** (patientID, SSN)

**DOCTOR** (doctorID, SSN, dos)

**TREATED** (doctorID, patientID, date, procedure, diagnostic)

**RELATIONS:**

**PATIENT** can suffer from many **DISEASES**

**DISEASES** can have many **MEDICATIONS**

**DISEASE** and **DISEASE\_OF\_SPECIALIZATION** have the same domain

**PROCEDURE** can be (consultation, intervention, surgery, etc)

**DIAGNOSTIC** can be the **DISEASE** or intervention type.

**SOLUTIONS (RELATIONAL ALGEBRA):**

1. **DOCTOR** who do not suffer from any **DISEASE**
2. **PATIENTS** with more than one **DISEASE**
3. **DOCTORS** suffering from a **DISEASE** in their specialization
4. **DISEASES** with only one medication
5. **PATIENTS** with certain **DISEASES**

Q2:

**TABLES:**

**FLIGHTS** (flightNumber, from, to, distance, departs, arrives, price)

**AIRCRAFT** (aID, aName, cruisingRange)

**CERTIFIED** (eID, aID, date)

**EMPLOYEES** (eID, SSN, firstName, lastName, salary, phone, address, city, province)

**PILOTS** (eID, startDate, endDate)

**FLIGHT\_ATTENDANTS** (eID, startDate, endDate)

**RELATIONS:**

**EMPLOYEES** describes all employee types

Every **PILOT** is **CERTIFIED** for some **AIRCRAFT** and only **PILOTS** are **CERTIFIED**

endDate is set to null if the **EMPLOYEE** is still working.

**SOLUTIONS (RELATIONAL ALGEBRA):**

1. **AIRCRAFT** that **PILOTS** that are **CERTIFIED** earn more than 95,000$

1. **PILOTS** who are **CERTIFIED** for Boeing 747 and Airbus 360 **AIRCRAFT**

1. **PILOTS** currently not working **CERTIFIED** for Boeing 747 and Airbus 360 **AIRCRAFT**
2. **AIRCRAFT** that can be used on routes Montreal-Vancouver and Calgary-Saskatchewan
3. **EMPLOYEES** who are **PILOTS** and **FLIGHT\_ATTENDANTS**