**Q1: Convert the ER diagram given at the following web page:**

<https://modelarchive.databases.biz/data_models/airline_reservations/index.html>

CREATE TABLE Flight\_Schedules (

flight\_number INTEGER NOT NULL,

airline\_code INTEGER NOT NULL,

usual\_aircraft\_type\_code INTEGER,

origin\_airport\_code INTEGER NOT NULL,

destination\_airport\_code INTEGER NOT NULL,

departure\_date\_time VARCHAR (10),

arrival\_date\_time VARCHAR(10),

PRIMARY KEY (flight\_number),

UNIQUE(airline\_code, origin\_airport\_code, destination\_airport\_code, departure\_date\_time));

This assumes that an airline company isn’t flying two flights on the same path, leaving at the same time.

CREATE TABLE Ref\_Calendar (

day\_date INTEGER NOT NULL,

day\_number INTEGER,

business\_day\_yn INTEGER,

PRIMARY KEY (flight\_number));

CREATE TABLE Flight\_Costs (

flight\_number INTEGER NOT NULL,

aircraft\_type\_code INTEGER,

valid\_from\_date VARCHAR (10),

valid\_to\_date VARCHAR (10),

flight\_cost INTEGER);

CREATE TABLE Airports (

airport\_code INTEGER NOT NULL,

airport\_name VARCHAR (10) NOT NULL,

airport\_location VARCHAR (10),

other\_details VARCHAR (10),

PRIMARY KEY (airport\_code));

CREATE TABLE Legs (

leg\_id INTEGER NOT NULL,

flight\_number INTEGER NOT NULL,

origin\_airport\_code INTEGER NOT NULL,

destination\_airport\_code INTEGER NOT NULL,

actual\_departure\_time VARCHAR (10),

actual\_arrival\_time VARCHAR (10),

PRIMARY KEY (leg\_id));

**Q2: Convert the ER diagram given at the following web page:** [**https://www.flickr.com/photos/ikhnaton2/533233247**](https://www.flickr.com/photos/ikhnaton2/533233247)

CREATE TABLE FacebookProfile (

UserID INTEGER NOT NULL,

AboutMe VARCHAR (10),

Birthday VARCHAR (10) NOT NULL,

FirstName VARCHAR (10) NOT NULL,

LastName VARCHAR (10) NOT NULL,

PictureUrl VARCHAR (10),

SchoolList VARCHAR (10),

CurrentLocation VARCHAR (10),

WorkPlaceList VARCHAR (10),

PRIMARY KEY (UserID));

CREATE TABLE School (

SchoolID INTEGER NOT NULL,

Name VARCHAR (10) NOT NULL,

Concentrations VARCHAR (10),

Graduation Year VARCHAR (10),

PRIMARY KEY (SchoolID));

CREATE TABLE Location (

City VARCHAR (10) NOT NULL,

Country VARCHAR (10) NOT NULL,

State VARCHAR (10),

Street VARCHAR (10),

ZipCode VARCHAR (10),

PRIMARY KEY (SchoolID)

UNIQUE(City, Country, State));

CREATE TABLE WorkPlace (

CompanyName VARCHAR (10) NOT NULL,

Position VARCHAR (10),

Description VARCHAR (10),

StartDate VARCHAR (10),

EndDate VARCHAR (10),

PRIMARY KEY (CompanyName));

Q3: Convert the following ER diagram into a set of tables using the ER2DB methods we saw in class.

CREATE TABLE Student (

NID INTEGER NOT NULL,

Fname VARCHAR (10),

LNaMe VARCHAR (10),

BDate VARCHAR (10),

Address VARCHAR (10),

PRIMARY KEY (NID));

CREATE TABLE Lecture (

CC# INTEGER NOT NULL,

Subject VARCHAR (10),

Time VARCHAR (10),

Lecturer\_Name VARCHAR (10),

Date VARCHAR (10),

PRIMARY KEY (CC#));

CREATE TABLE Enrollment (

Course\_Name INTEGER NOT NULL,

NID INTEGER NOT NULL,

CC# INTEGER NOT NULL,

EnrollmentDate VARCHAR (10),

PRIMARY KEY (Course\_Name));

CREATE TABLE Lecturer (

Lecturer\_ID INTEGER NOT NULL,

L\_FirstName VARCHAR (10) NOT NULL,

L\_LastName VARCHAR (10) NOT NULL,

L\_Email VARCHAR (10),

L\_Address VARCHAR (10),

PRIMARY KEY (Lecturer\_ID ));

CREATE TABLE Subjects (

Subject\_Code INTEGER NOT NULL,

Subject\_Unit VARCHAR (10),

Subject\_Udsc VARCHAR (10),

PRIMARY KEY (Subject\_Code));

Q4: Convert the following ER diagram into a set of tables using the ER2DB methods we saw in class.

CREATE TABLE Patient (

PID INTEGER NOT NULL,

name VARCHAR (10) NOT NULL,

sex VARCHAR (10),

address VARCHAR (10),

pdetails VARCHAR (10),

contact\_no INTEGER,

PRIMARY KEY (PID));

CREATE TABLE Medicine (

code INTEGER NOT NULL,

quantity INTEGER,

price INTEGER,

PRIMARY KEY (code));

CREATE TABLE Rooms (

rooms\_id INTEGER NOT NULL,

room\_type VARCHAR (10),

period VARCHAR (10),

PRIMARY KEY (rooms\_id));

CREATE TABLE Employee (

EID INTEGER NOT NULL,

NID INTEGER NOT NULL,

name VARCHAR (10) NOT NULL,

salary INTEGER,

address VARCHAR (10),

sex VARCHAR (10),

history VARCHAR (10),

contact\_num VARCHAR (10),

occupancy VARCHAR (10), #Nurse, Doctor, Receptionist

status VARCHAR (10), # Trainee, Visiting, Permanent

PRIMARY KEY (EID)

UNIQUE(NID));

CREATE TABLE Record (

record\_no INTEGER NOT NULL,

patient\_id INTEGER NOT NULL,

description VARCHAR (10),

appointment VARCHAR (10),

PRIMARY KEY (record\_no));