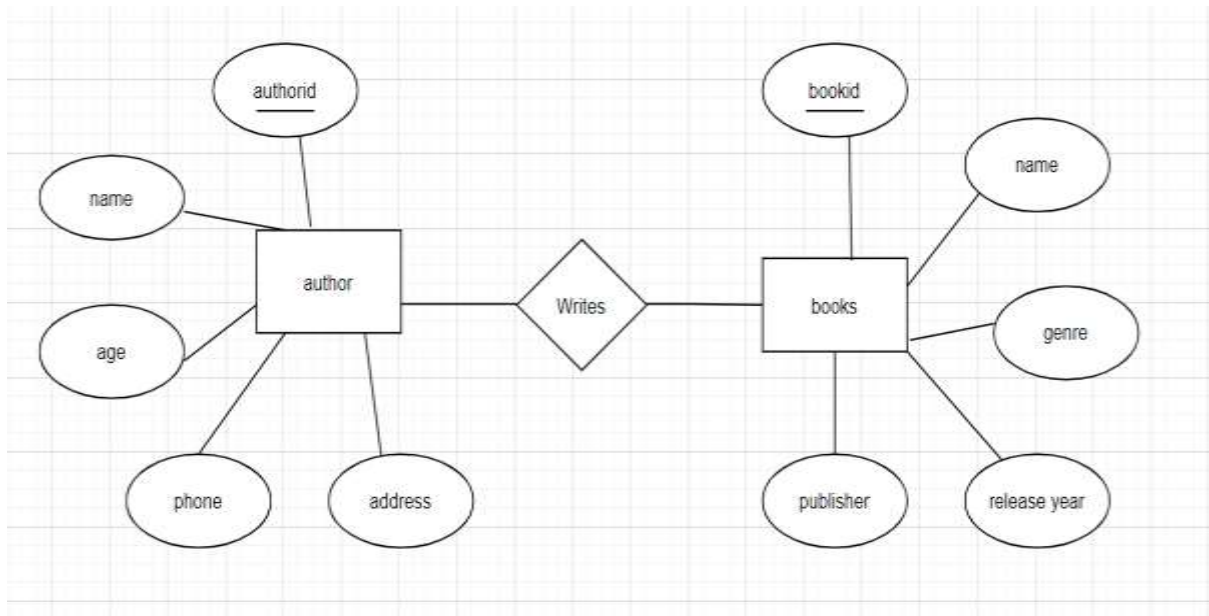# CS 630 HOMEWORK 2 - DATA BASE MANAGEMNET SYSTEMS
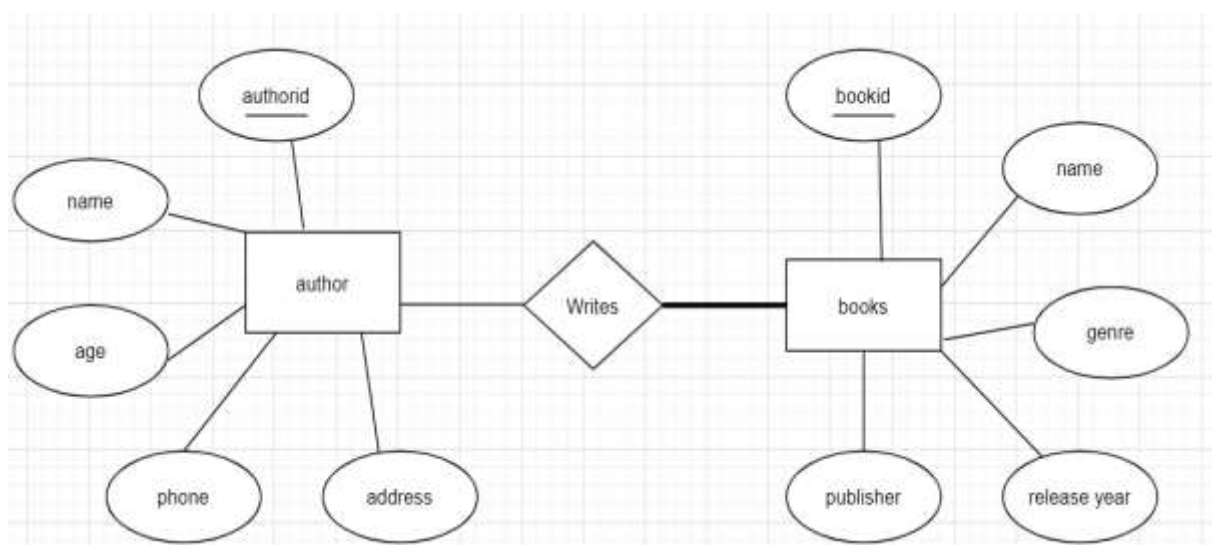
Haridas Aravind – 02071139

Question 1.

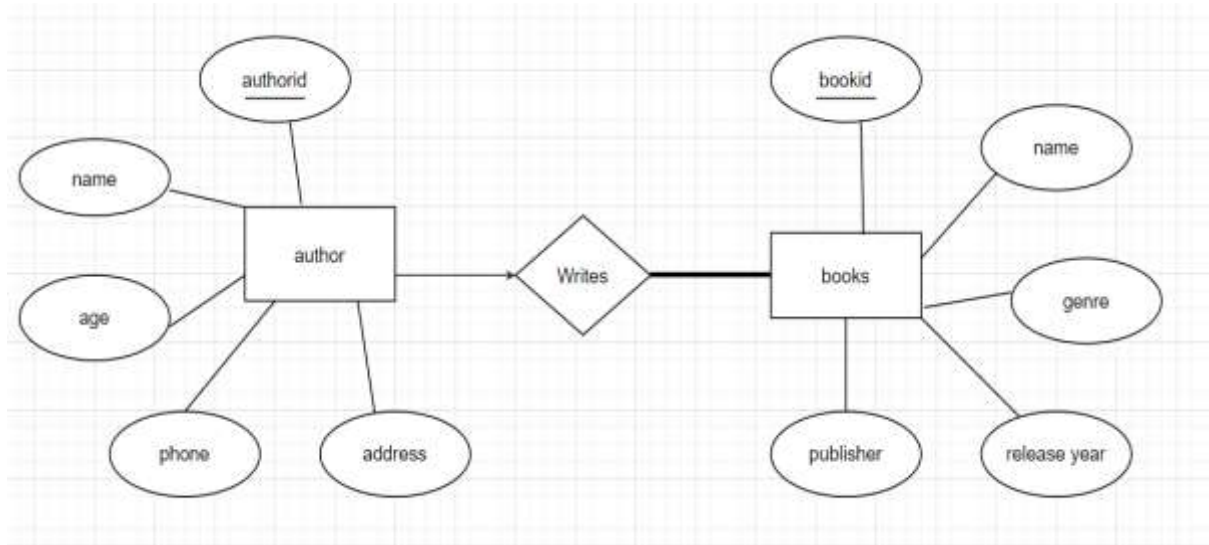a) Draw the ER diagram of this database (as described in the Question 1 statement). Do not use any other constraints.

b) Modify the diagram from a) further to add the constrain that each book must be written by at least one author.
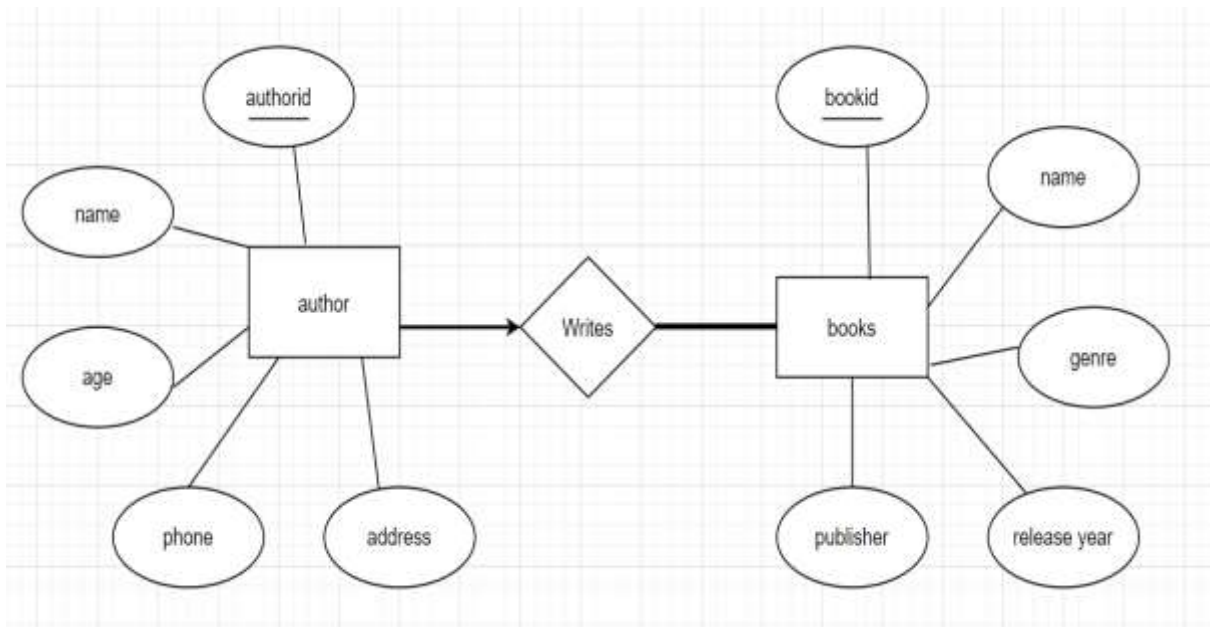
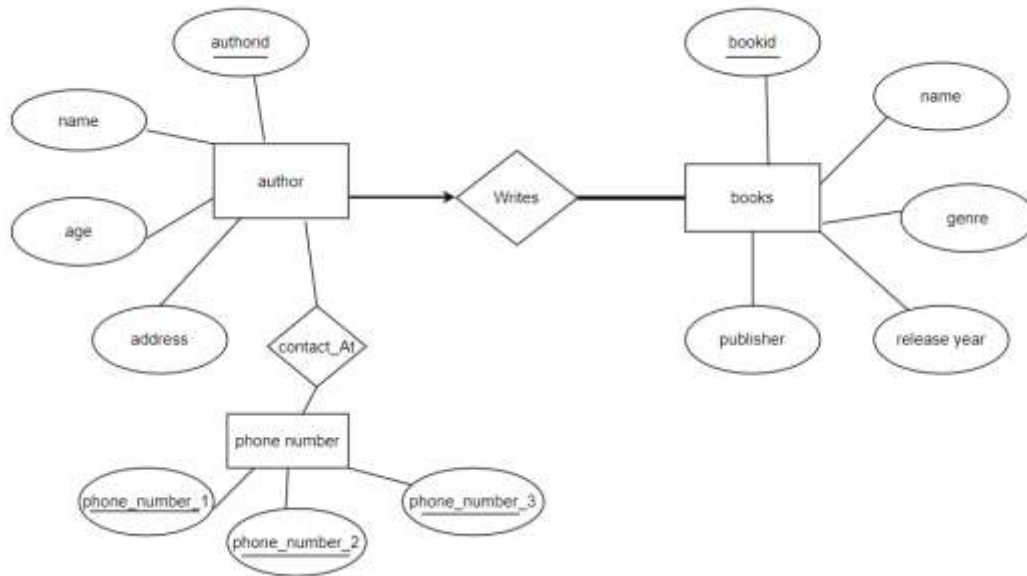c) Modify the diagram from b) further to add the constrain that each author must write at most one book.

d) Modify the diagram from c) further to add the constrain such that each book must be written by exactly one author.
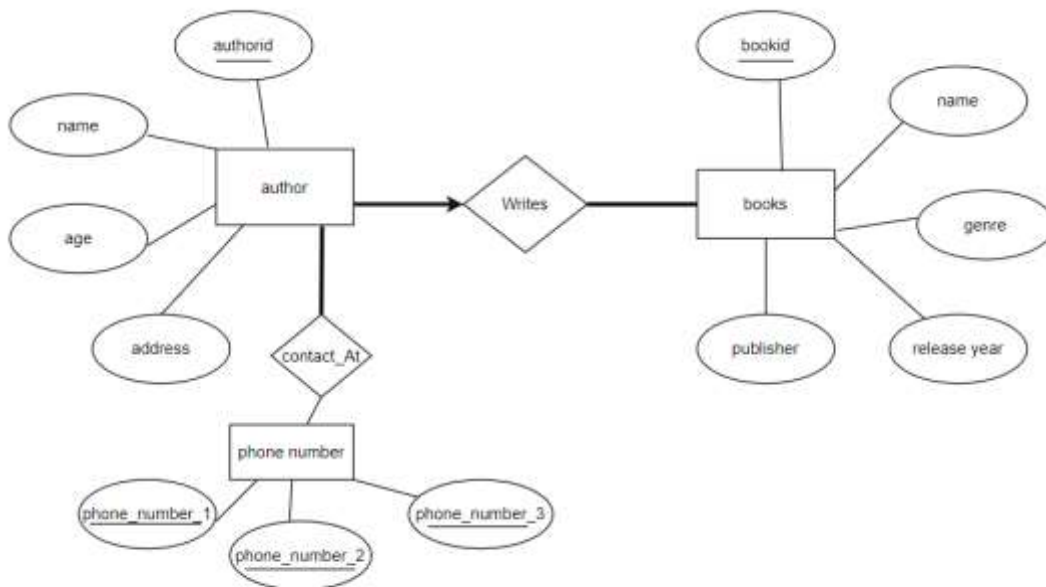
e) Modify the diagram from d) further such that each author can have multiple phone numbers.
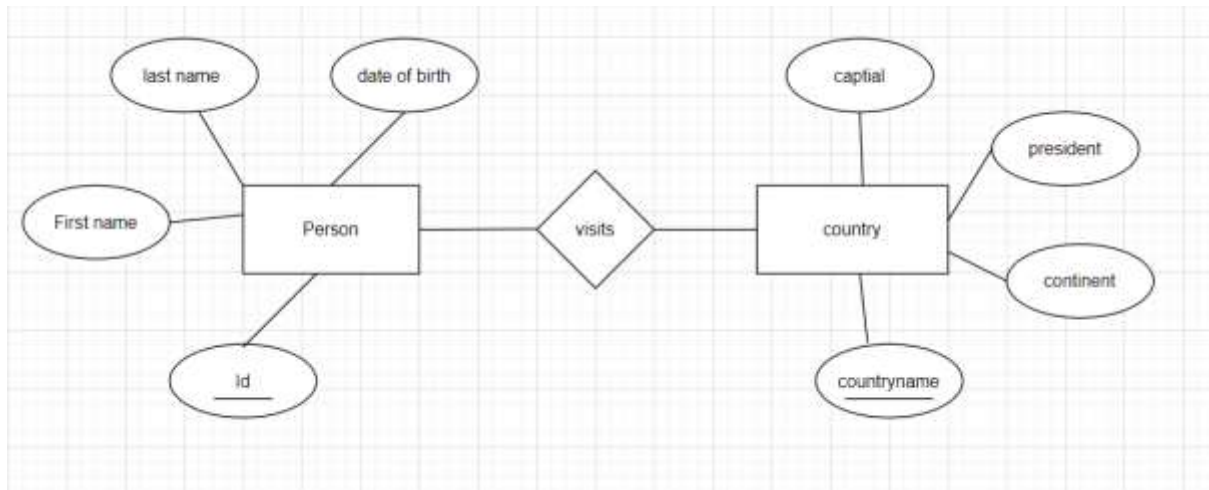

f) Modify the diagram from e) further such that each author must have at least one phone number.

CS 630 HOMEWORK 2 - DATA BASE MANAGEMNET SYSTEMS

Question 2): Given a database that stores information about Persons (identified by id) and Countries (identified by countryname). A country also has a capital, a president and a continent. A person also has a first name, a last name, date of birth (dob). Persons visit Countries. NOTES: the ER diagram should strictly follow the notations used in class. No other notations will receive any points.

a) Draw the ER diagram that describes this database. Do not add any additional constraints.

b) Write the database schema for this ER diagram.

Persons (id : int, first_name: string, last_name: string, date_of_birth: date)

Countries (countryname: string, capital: string, president: string, continent: string)

Visits (id: int, countryname: string)

c) Write the SQL CREATE TABLE statements for all tables identified for this database. The create statements have to work when ran against the Oracle database. The create statements have to be written in an order such that if executed in that order will not cause any error.

CREATE TABLE *PERSONS*

(

Id Integer(10) PRIMARY KEY,

First_name Varchar(20),

Last_name Varchar(20),

Date_of_birth date

);

CREATE TABLE *COUNTRIES*

(

Countryname VARCHAR(20) PRIMARY KEY,

Capital VARCHAR(20),

President VARCHAR(20),

Continent VARCHAR(20)

);

CREATE TABLE VISITS

(

Visit_id integer(10) PRIMARY KEY,

Person_id integer,

Countryname varchar(20),

Visit_date date,

Foerign key (person_id) References Person(id),

Foerign key (countryname) References Countries(countryname)

);

d) Write the SQL statement to update the table Persons to add two new columns: city and state.

ALTER table Persons

ADD city varchar(50),

ADD state varchar(50);

e) Write SQL statements to remove these three tables from the database. Write the statements in such an order such that if executed in that order no error will occur.

DROP table Visits;

DROP table Countries;

DROP table Persons;