Homework 2 CS157 A Spring 2020

Total Points: 15
Each SQL query is 1 point

Part 1:
Load the '1994-census-summary.sql' data into SQLite (use .read 1994-census-summary.sql)

Write SQL to answer the following questions:

1. what 'relationship' values appear in the data?
   select distinct relationship from census;
2. what are the minimum and maximum number of years of education?
   select min(education_num), max(education_num) from census;
3. which native countries end with "a"?
   select distinct native_country from census where native_country like '%a';
4. which native countries do not have "a" anywhere in their name?
   select distinct native_country from census where native_country not like '%a%';
5. what is the average age of people who have never worked?
   select avg(age) from census where workclass = 'Never_worked';
6. Show the workclass and education of people under 20?
   select workclass, education from census where age < 20
   (if someone used distinct workclass, education, that is also OK)
7. Show the sex of people who are over 80 and have never married?
   select sex from census where age > 80 and marital_status = 'Never_married';
8. show the sex, age, and marital status for people in the armed forces
   select sex, age, marital_status from census where occupation = 'Armed_Forces'
9. show the marital status of people of age 50 with relationship 'Not_in_family'
   select marital_status from census where age = 50 and relationship = 'Not_in_family';
   (if someone used distinct martial_status, that is also OK)
10. show the occupation of women under the age of 40 with a Doctorate degree
    select occupation from census where sex = 'Female' and age < 40 and education = 'Doctorate';
    (if someone used distinct occupation, that is also OK)
11. show all columns for people under the age of 21 with a Masters degree
    select * from census where age < 21 and education = 'Masters';
12. show the age of females with either a bachelors or a masters degree
    select age from census where sex='Female' and (education='Bachelors' or education='Masters');

Part 2:

Read the ‘courses-ddl.sql’ and ’courses-small.sql’ files into SQLite. Write SQL to answer the following questions:

13. Show the names of all students who have taken course “CS-190”, as well as the year in which they took the course.

```
select name, year
from student, takes
where student.ID = takes.ID and course_id = "CS-190";
```

14. For every course taught by an instructor, show the instructor’s name and the course that is taught.

```
select name, course_id
from instructor, teaches
where instructor.ID = teaches.ID;
```

15. Do the same as in the previous question, but do not show duplicates and sort by instructor name.

```
select distinct name, course_id
from instructor, teaches
where instructor.ID = teaches.ID
order by name;
```