-- PART 1

-- A. Import converted CSV-to-SQL file and load into compiler.

CREATE TABLE mytable(

State VARCHAR(14) NOT NULL PRIMARY KEY

,Murder NUMERIC(4,1) NOT NULL

,Assault INTEGER

,UrbanPop INTEGER NOT NULL

);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Alabama',13.2,236,58);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Alaska',10,263,48);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Arizona',8.1,294,80);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Arkansas',8.8,190,50);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('California',9,276,91);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Colorado',7.9,204,78);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Connecticut',3.3,110,77);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Delaware',5.9,238,72);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Florida',15.4,335,80);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Georgia',17.4,NULL,60);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Hawaii',5.3,46,83);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Idaho',2.6,120,54);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Illinois',10.4,249,83);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Indiana',7.2,113,65);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Iowa',2.2,56,57);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Kansas',6,115,66);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Kentucky',9.7,109,52);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Louisiana',15.4,249,66);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Maine',2.1,83,51);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Maryland',11.3,300,67);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Massachusetts',4.4,149,85);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Michigan',12.1,255,74);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Minnesota',2.7,72,66);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Mississippi',16.1,259,44);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Missouri',9,178,70);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Montana',6,109,53);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Nebraska',4.3,102,62);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Nevada',12.2,252,81);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('New Hampshire',2.1,57,56);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('New Jersey',7.4,159,89);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('New Mexico',11.4,285,70);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('New York',11.1,254,86);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('North Carolina',13,337,45);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('North Dakota',0.8,45,44);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Ohio',7.3,120,75);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Oklahoma',6.6,151,68);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Oregon',4.9,159,67);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Pennsylvania',6.3,106,72);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Rhode Island',3.4,174,87);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('South Carolina',14.4,279,48);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('South Dakota',3.8,86,45);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Tennessee',13.2,188,59);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Texas',12.7,201,80);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Utah',3.2,120,80);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Vermont',2.2,48,32);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Virginia',8.5,156,63);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Washington',4,145,73);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('West Virginia',5.7,81,39);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Wisconsin',2.6,53,66);

INSERT INTO mytable(State,Murder,Assault,UrbanPop) VALUES ('Wyoming',6.8,161,60);

-- B. Use SQL online editor to replace all missing values in a column by the average.

UPDATE Mytable

SET Assault = (select AVG(Assault) from Mytable)

WHERE Assault IS NULL;

-- C. Find min, max, mean, and variance of all numeric attributes in SQL.

Select min(Murder), max(Murder), Round(AVG(Murder), 1), Round(variance(Murder), 1)

from Mytable;

Select min(Assault), max(Assault), Round(AVG(Assault),1), Round(variance(Assault), 1) from Mytable;

Select min(UrbanPOP), max(UrbanPOP), Round(AVG(UrbanPOP), 1), Round(variance(UrbanPOP), 1) from Mytable;

-- D-1 Which state has the maximum murder rate?

Select State

from Mytable

where Murder = (SELECT max(murder) from Mytable);

-- D-2 List of states in ascending order of urban population percentages.

select State, UrbanPop

from Mytable

order by UrbanPop;

-- D-3 How many states have higher murder rates than Arizona? List those states.

SELECT COUNT(\*), GROUP\_CONCAT(State)

FROM Mytable

WHERE murder > (SELECT murder FROM Mytable WHERE state = 'Arizona');