--1. Write a query that allows you to inspect the schema of the naep table.

SELECT column\_name, data\_type

FROM information\_schema.columns

WHERE table\_name = 'naep';

--2. Write a query that returns the first 50 records of the naep table.

SELECT \*

FROM naep

LIMIT 50;

--3. Write a query that returns summary statistics for avg\_math\_4\_score by state.

-- Make sure to sort the results alphabetically by state name.

SELECT state, COUNT(avg\_math\_4\_score), AVG(avg\_math\_4\_score), MAX(avg\_math\_4\_score), MIN(avg\_math\_4\_score)

FROM naep

GROUP BY state

ORDER BY state;

--4. Write a query that alters the previous query so that it returns only the summary --statistics for avg\_math\_4\_score by state with differences in max and min values that --are greater than 30.

SELECT state, COUNT(avg\_math\_4\_score), AVG(avg\_math\_4\_score), MAX(avg\_math\_4\_score), MIN(avg\_math\_4\_score)

FROM naep

GROUP BY state

HAVING MAX(avg\_math\_4\_score) - MIN(avg\_math\_4\_score) > 30

ORDER BY state;

--5. Write a query that returns a field called bottom\_10\_states that lists the states

--in the bottom 10 for avg\_math\_4\_score in the year 2000.

WITH cte AS

(

SELECT avg\_math\_4\_score, state AS bottom\_10, year

FROM naep

WHERE year = 2000

ORDER BY avg\_math\_4\_score

LIMIT 10)

SELECT bottom\_10

from cte;

--6. Write a query that calculates the average avg\_math\_4\_score rounded to the nearest 2

-- decimal places over all states in the year 2000.

SELECT year, ROUND(AVG(avg\_math\_4\_score),2)

FROM naep

WHERE year = 2000

GROUP BY year;

--7. Write a query that returns a field called below\_average\_states\_y2000 that lists

-- all states with an avg\_math\_4\_score less than the average over all states in the year 2000.

WITH cte AS

(

SELECT year, AVG(avg\_math\_4\_score) AS y2000\_avg

FROM naep

WHERE year = 2000

GROUP BY year)

SELECT naep.year, state AS below\_average\_states\_y2000, avg\_math\_4\_score, cte.y2000\_avg

FROM naep LEFT OUTER JOIN cte

ON naep.year = cte.year

WHERE avg\_math\_4\_score < cte.y2000\_avg;

--8. Write a query that returns a field called scores\_missing\_y2000 that lists any states

-- with missing values in the avg\_math\_4\_score column of the naep data table for the year

-- 2000.

SELECT state AS scores\_missing\_y2000, avg\_math\_4\_score, year

FROM naep

WHERE year = 2000 AND avg\_math\_4\_score ISNULL;

--9. Write a query that returns for the year 2000 the state, avg\_math\_4\_score,

-- and total\_expenditure from the naep table left outer joined with the finance table,

-- using id as the key and ordered by total\_expenditure greatest to least. Be sure to round

-- avg\_math\_4\_score to the nearest 2 decimal places, and then filter out NULL

-- avg\_math\_4\_scores in order to see any correlation more clearly.

SELECT naep.year, naep.state, total\_expenditure, ROUND(avg\_math\_4\_score,2) AS avg\_math\_4\_score

FROM naep LEFT OUTER JOIN finance

ON naep.id = finance.id

WHERE naep.year = 2000 AND ROUND(avg\_math\_4\_score,2) NOTNULL

ORDER BY ROUND(avg\_math\_4\_score,2) DESC;

-- Although the exam instructions say there is a correlation...I see none. I would imagine if there -- is a correlation that it would be based on the expenditure per capita, not the total.