Directions: Write SQL statements for the following queries related to the Seattle Flights database. Do **NOT** actually list the results, **ONLY** the SQL statement that would produce the correct results. Also, there are several rhetorical questions included in the statement. You do not have to include the answers to those questions. For example, Question #2. asks if tail numbers are of uniform length.

1. Find the length of all tail numbers.

2. What is the minimum length of the tail numbers? Make sure to eliminate the null and/or zero length entries. Are all tail numbers uniform length?

3. Using string functions, select the first, third, and last character from each plane's tail number, and "store" into one result named 'Abbrev. Tail'.

4. Which destination had the most flights in 2014?

5. How many (unique) planes flew out of Seattle in 2014?

6. What is the shortest flight in terms of time? distance?

7. Which plane has flown the most flights out of Seattle? To which destination?

8. Find the average flight time of all United Airlines `UA` flights to `DEN` by month.

9. Determine the number of flights from Seattle to Los Angeles on July 4, 2014.

10. Determine the total mileage American Airlines flew each month. Include a count the number of flights American Airlines flew each month.

11. What is the maximum flight time of all flights to `DFW`?

12. Delays are estimated to cost the airlines several billion dollars in additional expense[1]. Delays also drive demand for extra gates and ground personnel. Furthermore, delays cost customers in the form of lost productivity and wages. In 2018, the cost to airlines and customers was estimated to be $28 billion.

    Find the total delay of all flights (sum of departure and arrival delays).

13. List the number of delayed flights by carrier and destination.

14. Find the average departure delay of American Airlines flights to `DFW`.

15. Which airline had the most (departure) delayed flights? Hint: use `where, group by, order by`, and `limit` clauses.

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[1]Fuel and salaries are the most significant expenses for airlines.

16. What is the average departure delay of American Airlines `AA`?

17. Find the average flight time of United Airlines `UA` flights by destination. Round time up to next minute. Sort by destination in ascending order. Modify this to only destinations starting with the letter 'I'.

18. List all store products made in the USA.

19. Find the average price and MSRP of all products in the store database. Additionally, find the ratio of these averages to identify the average (in some sense) mark-up. Round answers to cents.

20. Calculate the total sale price on all bird products made in China. Total price also includes 8% sales tax and shipping amount. Calculate the shipping cost using the formula:

$$\$3.50 \times \text{Volume}/166.$$

Then round up to the nearest $0.99. That is, make all prices $x.99, where x is the calculated dollar amount that includes tax and shipping. For example, if your calculated price is $33.57, set the price to $33.99. Don't forget the seller's mark-up by using the MSRP.