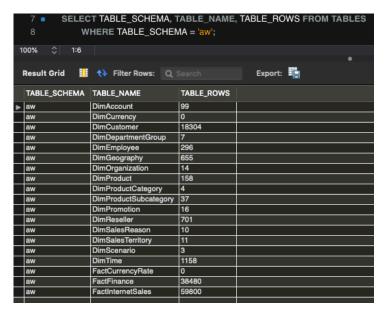
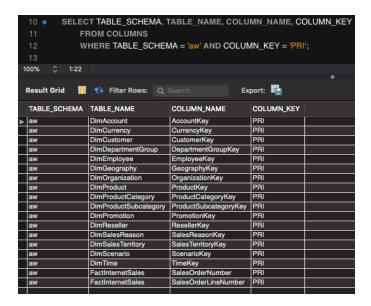
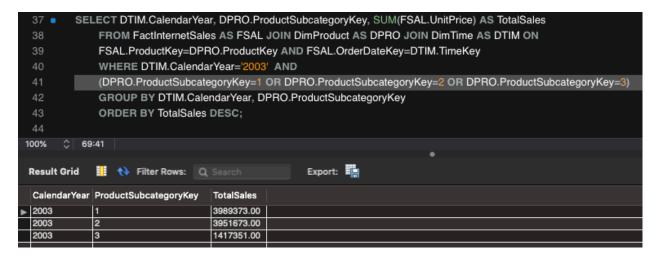
1. 1. Use the information_schema to find out how many rows there are in each table in the adventureworks data warehouse. Show the table name and its row count.



2. Use the information_schema to list out each table in the adventureworks data warehouse and its primary key.



- 3. What standard table naming convention did the AdventureWorksDW database designers use to differentiate dimension tables from fact tables in this star schema data warehouse
 - 1. To name the dimension tables they start each table with "Dim". To differentiate the fact tables they start each table name with "Fact".
- 4. What do you think is the purpose of the recursive relationship on DimEmployee?
 - 1. The purpose of the recursive relationship is to allow for employee hierarchy that exists in the AdventureWorks business. At their business each employee can have a boss and/or a subordinate beneath them so a self referencing relationship is needed.
- 5. What are the three types of models of bikes sold by AdventureWorks?
 - 1. AdventureWorks sells Mountain, Road and Touring bikes.
- 6. Of these three, which type of bike model had the highest sales (in dollar volume) in 2003?

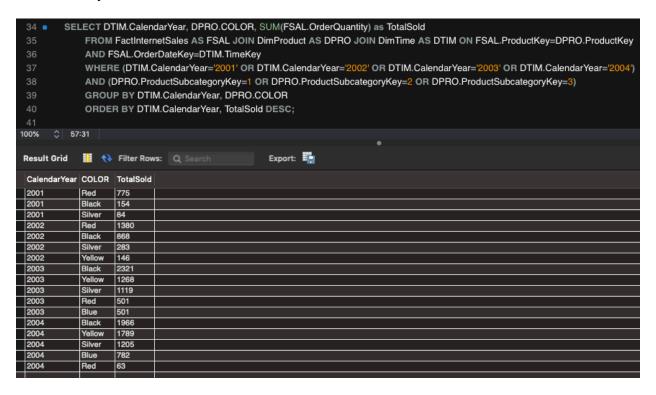


- 1. AdventureWorks Mountain Bike had the highest sales in 2003
- 7. List five of the other non-bike products sold by AdventureWorks. (Pick any five.)

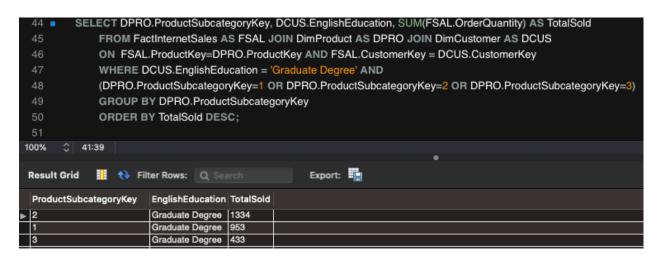


8. Compare and rank the total counts of the bikes sold by AdventureWorks for each of the years 2001 – 2004 by color. What was the most popular color of bikes sold in each of these 4 years? Provide your SQL query, and your answer set along with your answer to the question. You can assume that one row in the fact table equals one sale. HINT: Since the fact table contains sales for all kinds of products, you should include only fact rows where the sale is for a bike. One easy way to do this is a WHERE clause selecting

only rows where EnglishProductSubcategoryName contains the string "bikes". There are other ways to determine this as well.



- 1. In 2001 and 2002 the most popular color was red. In 2003 and 2004, black was the most popular.
- 9. 9. AdventureWorks tracks the level of education of each of their customers. Which model of bike is the highest seller among customers with graduate degrees? You can assume that one row in the fact table equals one sale.



Road Bikes are the highest selling type of bike among customers with graduate degrees.

10. 10. For the year 2004, which State/Province yielded the highest margin for AdventureWorks? (HINT: use the customer's State/Province.) Provide your SQL query, and your answer set along with your answer to the question.

California yielded the highest margin for AdventureWorks

```
SELECT DTIM.CalendarYear, DGEO.StateProvinceName, SUM(FSAL.UnitPrice - DPRO.StandardCost) AS Margin
FROM FactInternetSales as FSAL JOIN DimProduct AS DPRO JOIN DimTime AS DTIM JOIN DimGeography AS DGEO JOIN DimCustomer AS DCUS
ON FSAL.ProductKey=DPRO.ProductKey
AND FSAL.OrderDateKey=DTIM.TimeKey
AND FSAL.CustomerKey = DCUS.CustomerKey
AND DCUS.GeographyKey = DGEO.GeographyKey
WHERE DTIM.CalendarYear = '2004'
GROUP BY DTIM.CalendarYear, DGEO.StateProvinceName
ORDER BY Margin DESC;
```

	CalendarYear	StateProvinceName	Margin
▶	2004	California	847226.00
	2004	England	499735.00
	2004	New South Wales	464461.00
	2004	Washington	373392.00
	2004	British Columbia	288089.00
	2004	Victoria	247257.00
	2004	Queensland	230767.00
	2004	Oregon	170851.00
_	2004	Saarland	115289.00
	2004	Hessen	103598.00
	2004	Nordrhein-Westfalen	93326.00
	2004	Seine (Paris)	72431.00
	2004	Hamburg	68368.00
	2004	South Australia	67413.00
	2004	Bayern	59083.00
	2004	Seine Saint Denis	55086.00
_	2004	Nord	52012.00
	2004	Yveline	46509.00
	2004	Hauts de Seine	39594.00
	2004	Essonne	38227.00
	2004	Tasmania	20852.00
	2004	Seine et Marne	16647.00
	2004	Moselle	15486.00
	2004	Loiret	10585.00
	2004	Brandenburg	8631.00
	2004	Garonne (Haute)	8372.00
	2004	Val d'Oise	7904.00
	2004	Charente-Maritime	5078.00
	2004	Somme	4658.00
	2004	Val de Marne	4615.00
	2004	Alberta	2448.00
	2004	Pas de Calais	2380.00
	2004	Loir et Cher	2363.00
	2004	Florida	2064.00
	2004	South Carolina	1105.00
	2004	New York	1097.00
	2004	Wyoming	443.00
	2004	Texas	438.00
	2004	Georgia	378.00
	2004	Ohio	107.00
	2004	Illinois	88.00
	2004	Kentucky	61.00
	2004	Minnesota	35.00
	2004	Mississippi	33.00
	2004	Virginia	25.00
	2004	Alabama	22.00