

Hands On Labs – SQL Aggregation

These ungraded hands-on-labs will help you build your skills working with aggregating data in a SQL SELECT statement. Solutions to all problems are immediately available, but you'll learn the material more *durably* if you attempt each problem before consulting its solution.

All of the queries use tables in the flights database. You may find the data descriptions here helpful:

<http://cran.r-project.org/web/packages/nycflights13/nycflights13.pdf>

1. What is the average altitude of the three major New York airports?

	avg numeric
1	17.666666666666667

2. What is the average altitude for airports grouped by timezone. Which timezone has the highest altitude? Why?

	tz integer	avg numeric
1	-11	94.0000000000000000
2	-10	486.1538461538461538
3	-9	210.3378378378378378
4	-8	960.0789473684210526
5	-7	3848.4347826086956522
6	-6	981.9519230769230769
7	-5	502.6488888888888889
8	-4	665.3939393939393939
9	5	1688.0000000000000000
10	6	35.0000000000000000
11	7	94.0000000000000000
12	8	115.5000000000000000

3. Which of these four airplanes made the most flights out of New York City airports in 2013?

Plane tailnums: 'N125UW','N848MQ','N328AA','N247JB'

	tailnum character(6)	count bigint
1	N328AA	393
2	N247JB	350
3	N848MQ	175
4	N125UW	35

4. For each of these four planes, show the corresponding meta-data (model, manufacturer, engines, etc.) about each plane? What is surprising about the information returned? How do you think this could happen?

	tailnum character(6)	year integer	type character varying	manufacturer character varying	model character varying	engines integer	seats integer	speed integer	engine character varying
1	N125UW	2009	Fixed wing multi engine	AIRBUS	A320-214	2	182		Turbo-fan
2	N247JB	2006	Fixed wing multi engine	EMBRAER	ERJ 190-100 IGW	2	20		Turbo-fan
3	N328AA	1986	Fixed wing multi engine	BOEING	767-223	2	255		Turbo-fan

5. Write a SELECT statement that shows for all of the flights during the period February 14th to February 17th for each of the four planes above: 'N125UW','N848MQ','N328AA','N247JB'. Your select statement should return the following information: tailnum, flight date information, departure delay, arrival delay, 3 digit destination code

	tailnum character(6)	year integer	month integer	day integer	dep_delay integer	arr_delay integer	dest character(3)
1	N247JB	2013	2	14	124	127	CLT
2	N247JB	2013	2	14	99	91	SJU
3	N328AA	2013	2	14	1	-16	LAX
4	N328AA	2013	2	14	12	-9	LAX
5	N328AA	2013	2	15	33	8	LAX
6	N328AA	2013	2	16	8	-35	LAX
7	N328AA	2013	2	17	-7	-19	LAX
8	N848MQ	2013	2	17	39	30	RDU
9	N848MQ	2013	2	15	-8	-7	DCA
10	N848MQ	2013	2	16	2	-16	DCA
11	N848MQ	2013	2	14	24	16	DCA
12	N848MQ	2013	2	17	-7	-22	RDU
13	N848MQ	2013	2	14	12	0	RDU
14	N848MQ	2013	2	15	-4	-16	DCA