

Announcements

- Readings (Week 5 due Saturday 2/8)
 - Email: gquer@ucsd.edu
 - Subject line:
 - [DSC96 W20]: Week 05, Sec A/B, YourFirstName
YourLastName
 - Email content:
 - Your comments/ questions/ observations on the proposed lectures
- Assignment 2:
 - By end of week 7 (Friday 2/21)
 - Text processing assignment OR health data

Back to data!



Schedule W20 : Sheet1

Week	Date	Project	Lecture Link	Exercise Link
1	1/6	Data Analysis with Tableau and SDPD Data	Answers on Day 1	Lobbying and Titanic
	1/8		Data Exploration	Lobbying and Titanic
2	1/13		Data is Messy	San Diego Police Dep.
	1/15		Data is still Messy	
3	1/20	Data and the	No class	
	1/22			03. Intermediate Python
4	1/27		NLP	04 Text
	1/29		Web Scraping	
5	2/3			

UC San Diego

DATA SCIENCE / MACHINE LEARNING PLATFORM

Information Technology Services - Educational Technology Services

jupyter Home Token

Select Your (Course) Environment

☐ DSC 96 - Workshop in Data Science - Quer [W120]
Python 3 (2 CPU, 4G RAM)

Launch Environment

Questions for Data Science

Data Science: the easy way

- Dataset
 - Structured, well formatted
 - Minor issues in the data (like in SDPD)
- Question
 - You have precise guidelines on what to look for
- Your job is
 - code for the analysis
 - Present the results

vehicle_stops_2016_datasd

stop_id	stop_cause	service_area	subject_race	subject_sex	subject_age	timestamp	stop_date	stop_time	sd_resident	arrested	searched
1308198	Equipment Violation	530	W	M	28	2016-01-01 00:06:00	2016-01-01	0:06	Y	N	N
1308172	Moving Violation	520	B	M	25	2016-01-01 00:10:00	2016-01-01	0:10	N	N	N
1308171	Moving Violation	110	H	F	31	2016-01-01 00:14:00	2016-01-01	0:14			
1308170	Moving Violation	Unknown	W	F	29	2016-01-01 00:16:00	2016-01-01	0:16	N	N	N
1308197	Moving Violation	230	W	M	52	2016-01-01 00:30:00	2016-01-01	0:30	N	N	N
1308200	Moving Violation	710	H	M	24	2016-01-01 00:30:00	2016-01-01	0:30	Y	N	N
1308174	Moving Violation	Unknown	O	M	20	2016-01-01 00:35:00	2016-01-01	0:35	Y	N	N
1308199	Moving Violation	440	H	M	50	2016-01-01 00:45:00	2016-01-01	0:45	Y	N	N
1308979	Moving Violation	310	H	F	25	2016-01-01 01:03:00	2016-01-01	1:03	Y	N	Y
1308965	Moving Violation	240	W	F	23	2016-01-01 01:10:00	2016-01-01	1:10	Y	N	N
1308175	Moving Violation	120	O	M	54	2016-01-01 01:20:00	2016-01-01	1:20	Y	N	N
1308176	Moving Violation	520	W	F	53	2016-01-01 01:39:00	2016-01-01	1:39	Y	N	N
1308177	Moving Violation	520	W	M	35	2016-01-01 01:57:00	2016-01-01	1:57	N	N	N
1308178	Moving Violation	520	W	M	29	2016-01-01 02:00:00	2016-01-01	2:00	N	Y	N
1308180	Moving Violation	510	B	M	38	2016-01-01 03:24:00	2016-01-01	3:24	Y	N	N
1308182	Moving Violation	310	W	M	24	2016-01-01 06:40:00	2016-01-01	6:40	Y	N	N
1308969	Moving Violation	Unknown	W	F	38	2016-01-01 06:45:00	2016-01-01	6:45	Y	N	N
1308181	Equipment Violation	830	H	M	18	2016-01-01 06:50:00	2016-01-01	6:50			
1308191	Moving Violation	230	W	M	25	2016-01-01 07:52:00	2016-01-01	7:52	N	N	N
1308183	Moving Violation	520	H	M	31	2016-01-01 08:15:00	2016-01-01	8:15	Y	N	N
1308187	Equipment Violation	510	H	M	31	2016-01-01 08:15:00	2016-01-01	8:15	Y	N	Y
1308186	Moving Violation	710	H	F	48	2016-01-01 08:21:00	2016-01-01	8:21	N	N	N
1308184	Equipment Violation	320	O	M	68	2016-01-01 08:25:00	2016-01-01	8:25	Y	N	N

DS: the real way



- What problem needs to be solved
 - in industry, solving a problem means providing value to the business
 - in research, even more complicated
- Outcome:
 - a good question!
 - Easy to ask a question, isn't it?

Right question

- Ask a **sharp** question
 - a sharp question must be answered with numbers, which is what you extract from data
 - "What's going to happen with my stock?" --->



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 - "What will my stock's sale price be next week?" ---> specific price!



Right question

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 - a sharp question must be answered with numbers, which is what you extract from data
 - "What's going to happen with my stock?" ---> "The price will change"
 - "What will my stock's sale price be next week?" ---> specific price!
- Make sure your data can answer the question!
- Reformulate your question
 - insight from data
 - can they be generalized
 - can they be used for future prediction
- Questions we can answer now:
 - Is the police pulling over car at the right moment?
 - What time are cars usually pulled over?
 - What time are crashing usually happening?
 - Day of the week
 - Geographical area



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- Define success
 - What metric to use

