

Fall 2017

ACCT / MIS 6309 Business Data Warehousing

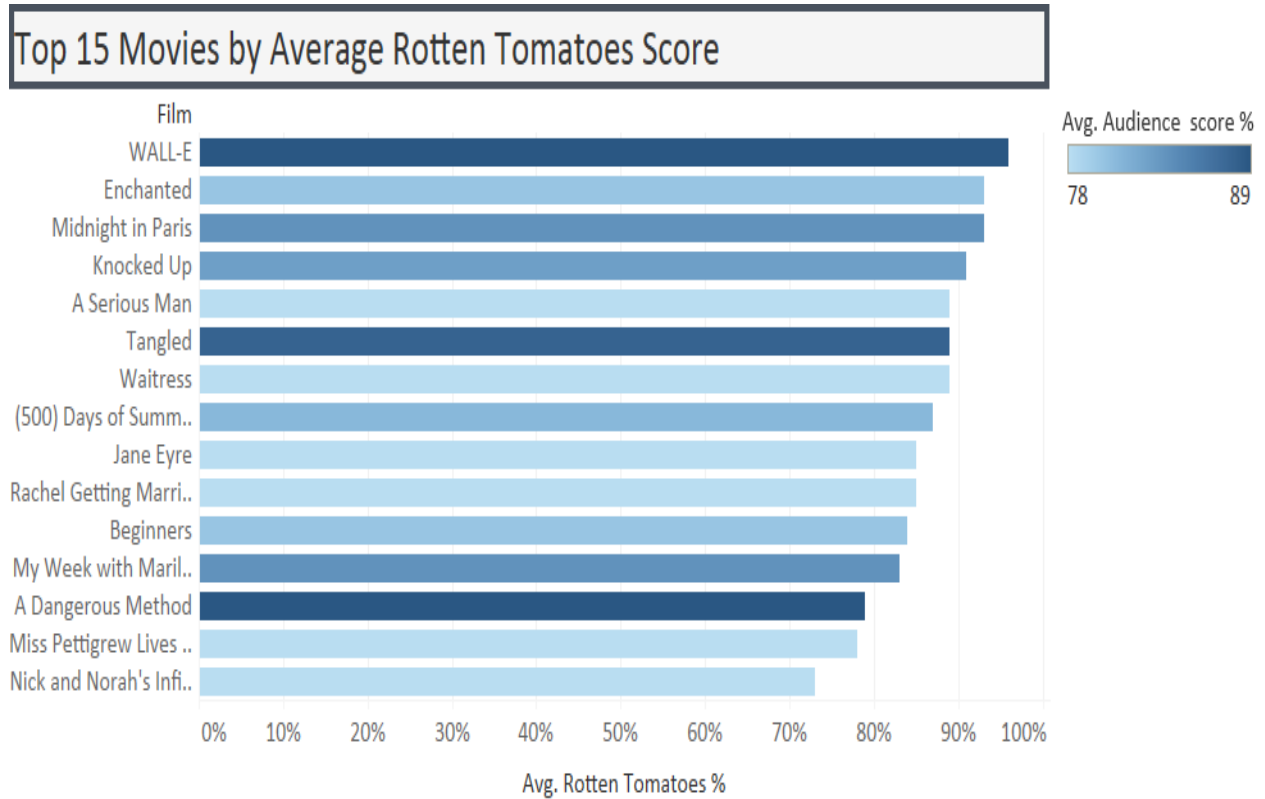
Lab #1

Data Visualization for Business Intelligence using Tableau

Prateek Rawat

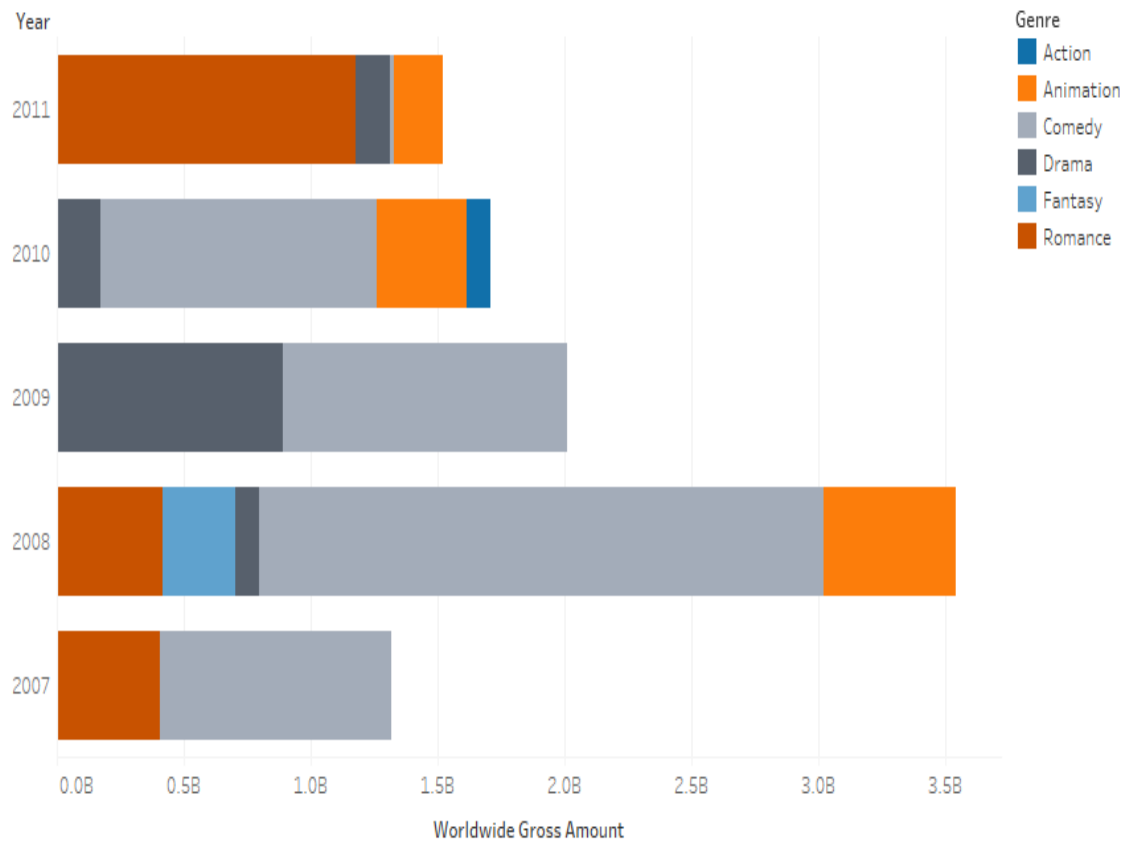
Chapter 1 – Basic Charts

Creating a Bar Chart



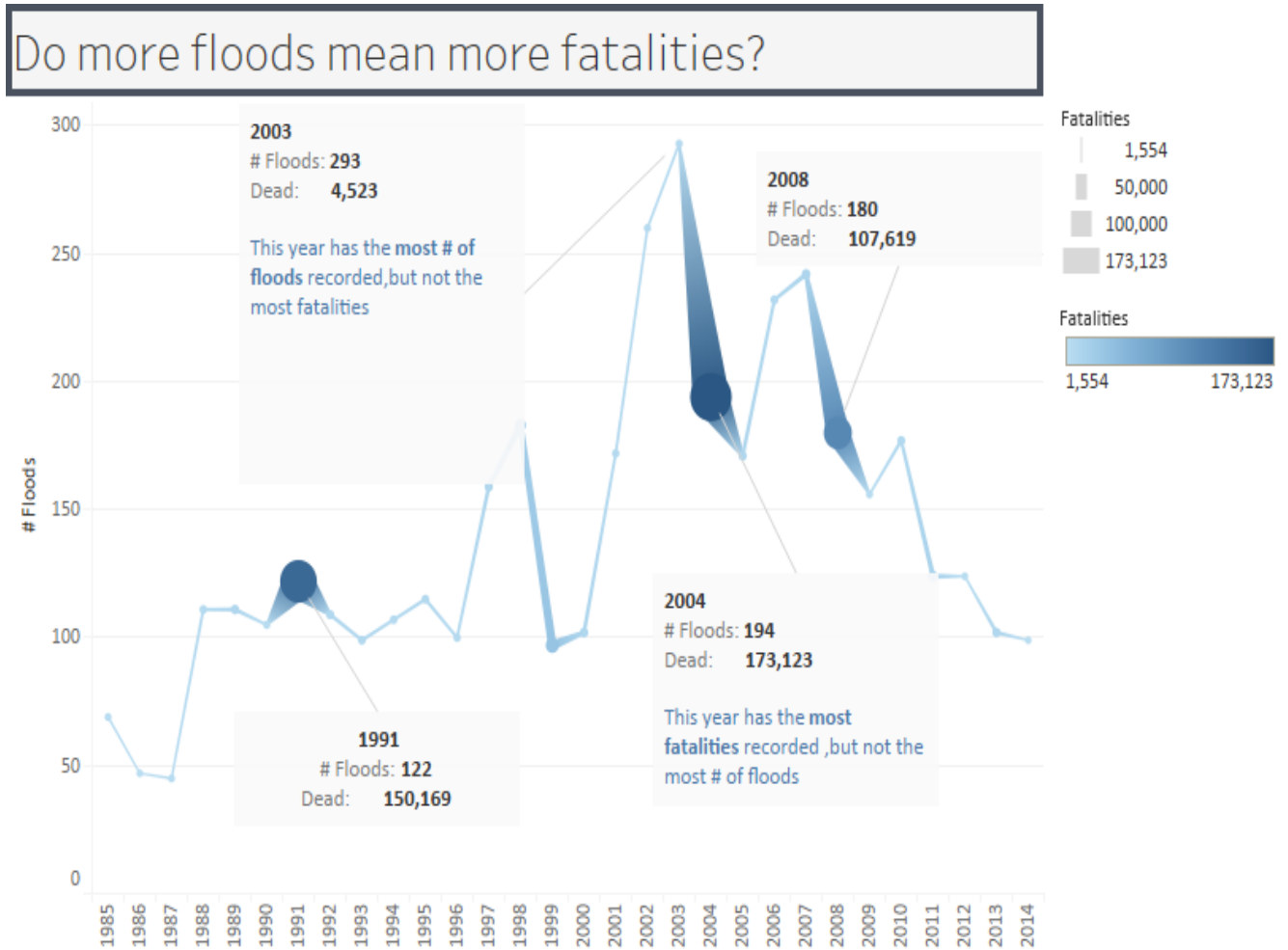
Chapter 1 – Basic Charts
Creating a Stacked Bar Chart

Movie Worldwide Gross by Genre from 2007-2011



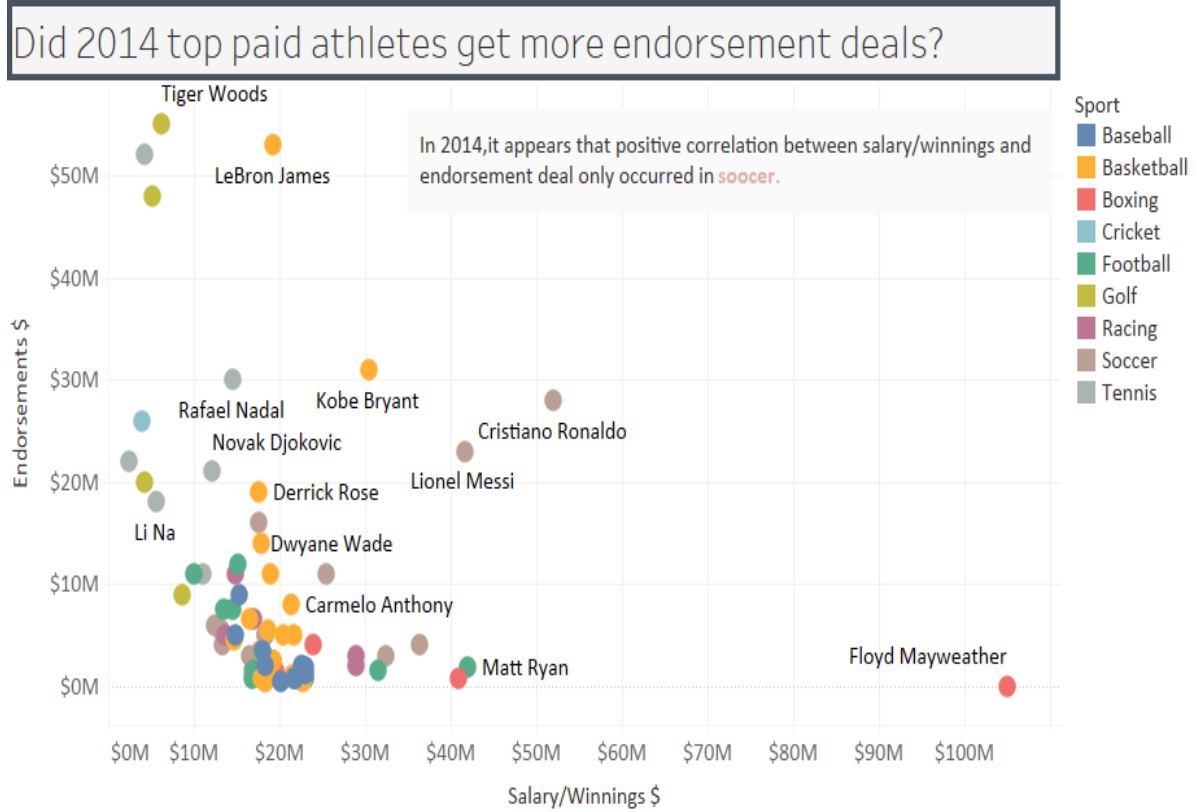
Chapter 1 – Basic Charts

Creating a line Chart



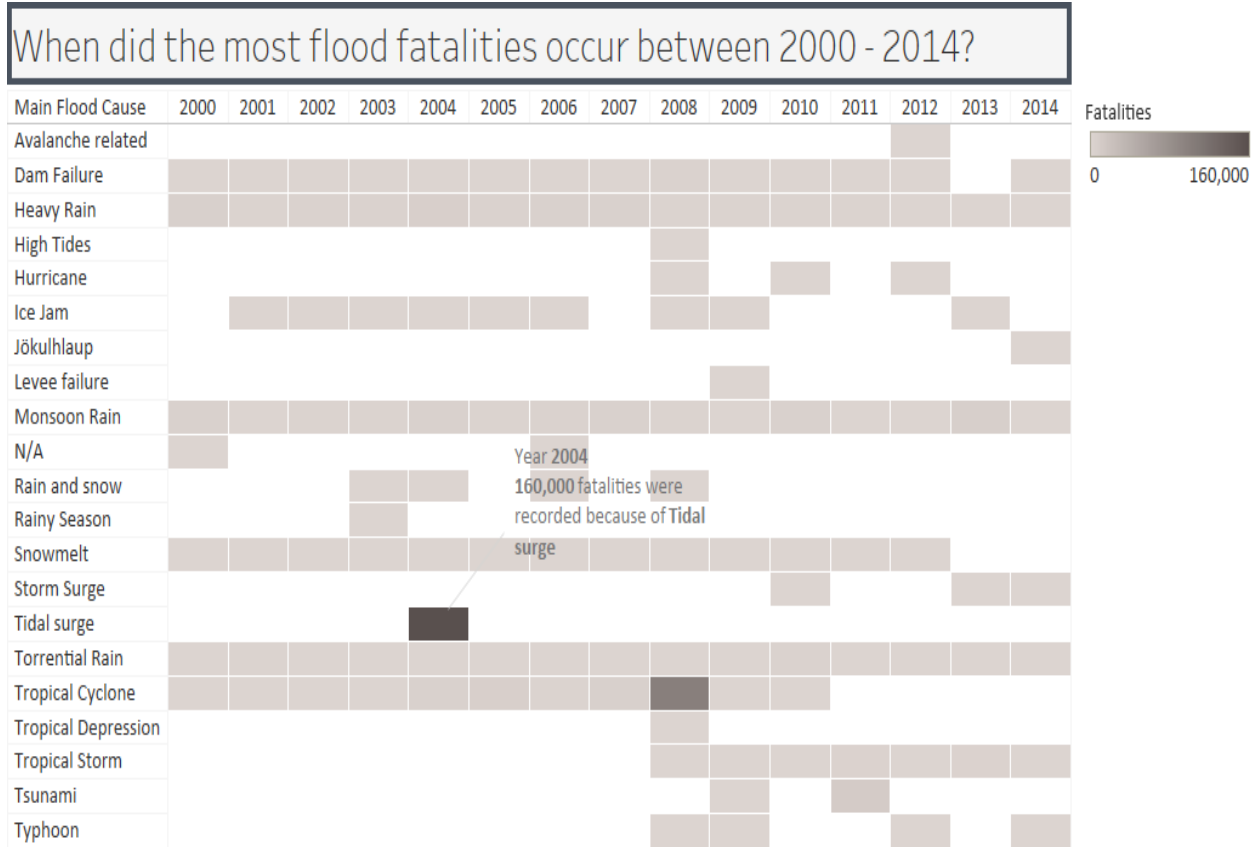
Chapter 1 – Basic Charts

Creating a Scatter Plot



Chapter 1 – Basic Charts

Creating a Heat Map



Chapter 1 – Basic Charts

Creating a Text Table

Top 20 Movies from 2007-2011 based on Worldwide Gross						
Film	Year	Worldwide Gross A..	Audience score %	Avg. Rotten Tomat..	Avg. Profitability	
The Twilight Saga: New Moon	2009	\$709,820,000	78%	27%	14	
Twilight: Breaking Dawn	2011	\$702,170,000	68%	26%	6	
Mamma Mia!	2008	\$609,473,955	76%	53%	9	
WALL-E	2008	\$521,283,432	89%	96%	3	
Sex and the City	2008	\$415,253,258	81%	49%	7	
Twilight	2008	\$376,661,000	82%	49%	10	
Tangled	2010	\$355,080,000	88%	89%	1	
Enchanted	2007	\$340,487,652	80%	93%	4	
The Proposal	2009	\$314,700,000	74%	43%	8	
Sex and the City 2	2010	\$288,350,000	49%	15%	3	
The Curious Case of Benjamin Button	2008	\$285,431,000	81%	73%	2	
High School Musical 3: Senior Year	2008	\$252,044,501	76%	65%	23	
It's Complicated	2009	\$224,600,000	63%	56%	3	
What Happens in Vegas	2008	\$219,367,646	72%	28%	6	
Knocked Up	2007	\$219,001,261	83%	91%	7	
Valentine's Day	2010	\$217,570,000	54%	17%	4	
Marley and Me	2008	\$206,073,000	77%	63%	4	
The Ugly Truth	2009	\$205,300,000	68%	14%	5	
Gnomeo and Juliet	2011	\$193,967,000	52%	56%	5	
He's Just Not That Into You	2009	\$178,840,000	60%	42%	7	
Grand Total		\$6,835,473,705	1,451%	52%	7	

Chapter 1 – Basic Charts

Creating a Highlight Table

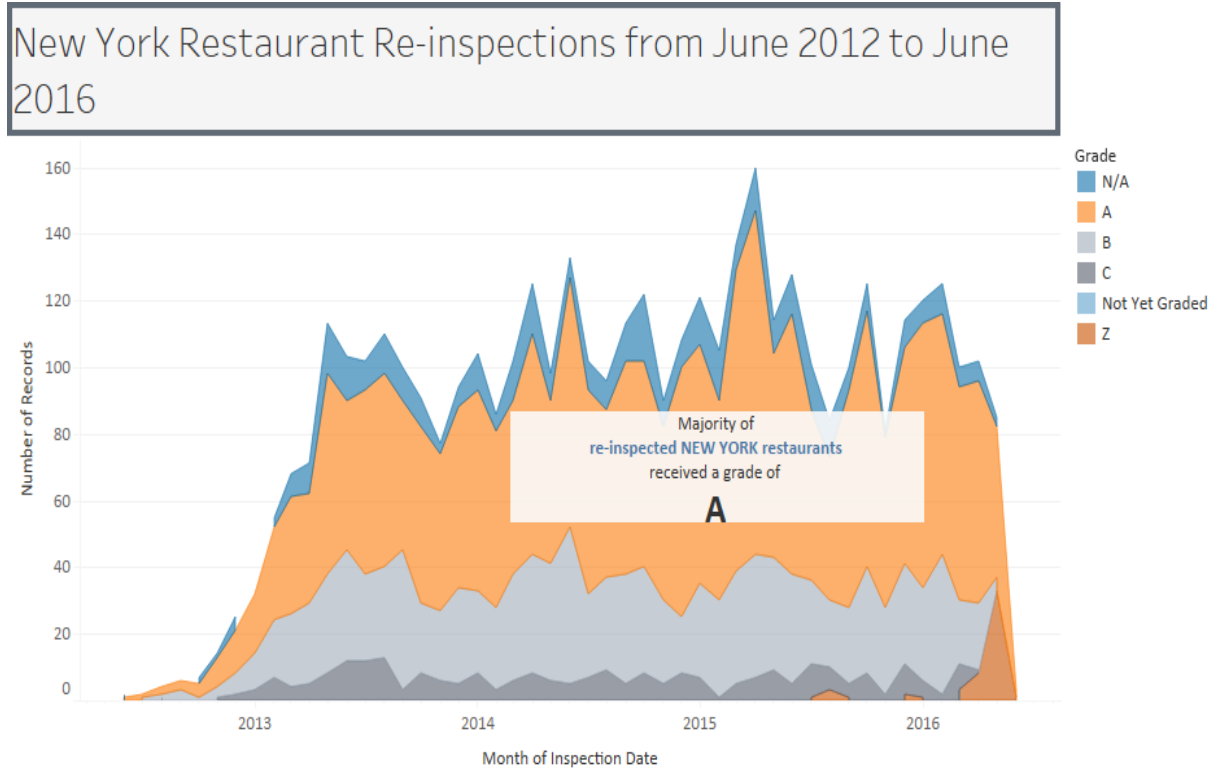
Top 20 Movies from 2007-2011 based on Worldwide Gross					
Film	Year	Worldwide Gross Amo..	Avg. Audience score %	Avg. Rotten Tomatoes %	Avg. Profitability
Enchanted	2007	\$340,487,652	80%	93%	4
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He's Just ..	2009	\$178,840,000	60%	42%	7
High Scho..	2008	\$252,044,501	76%	65%	23
It's Compl..	2009	\$224,600,000	63%	56%	3
Knocked ..	2007	\$219,001,261	83%	91%	7
Mamma ..	2008	\$609,473,955	76%	53%	9
Marley an..	2008	\$206,073,000	77%	63%	4
Sex and t..	2008	\$415,253,258	81%	49%	7
Sex and t..	2010	\$288,350,000	49%	15%	3
Tangled	2010	\$355,080,000	88%	89%	1
The Curio..	2008	\$285,431,000	81%	73%	2
The Prop..	2009	\$314,700,000	74%	43%	8
The Twilig..	2009	\$709,820,000	78%	27%	14
The Ugly ..	2009	\$205,300,000	68%	14%	5
Twilight	2008	\$376,661,000	82%	49%	10
Twilight: ..	2011	\$702,170,000	68%	26%	6
Valentine'..	2010	\$217,570,000	54%	17%	4
WALL-E	2008	\$521,283,432	89%	96%	3
What Hap..	2008	\$219,367,646	72%	28%	6
Grand Total		\$6,835,473,705	73%	52%	7

Worldwide Gross Amo..

 179M 710M

Chapter 1 – Basic Charts

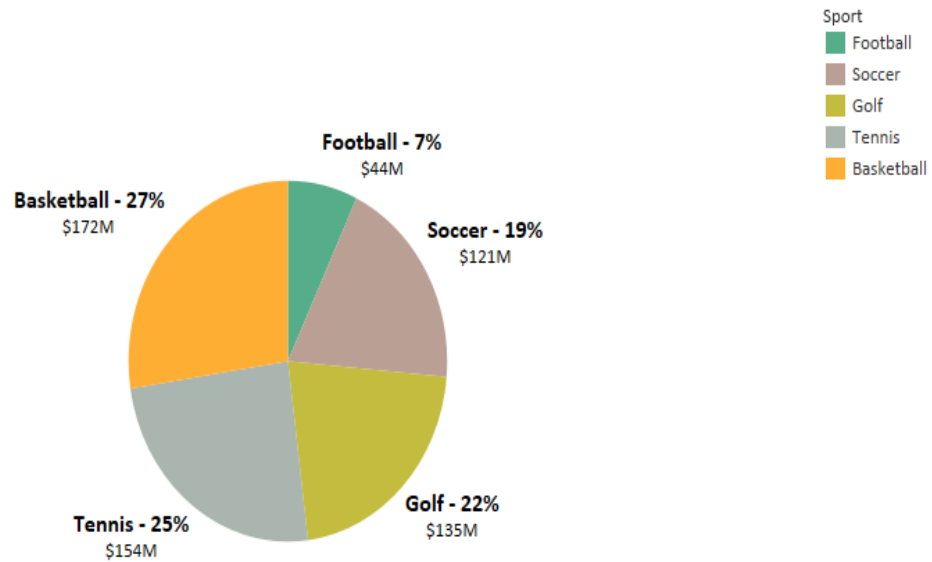
Creating an Area Chart



Chapter 1 – Basic Charts

Creating an Pie Chart

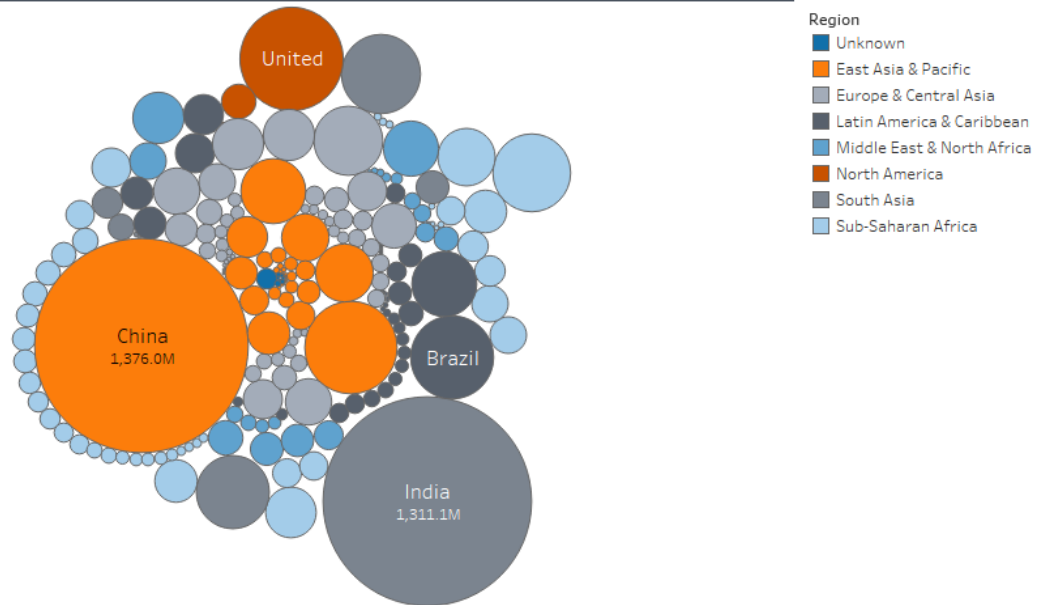
Top 5 Endorsements by Sports in 2014



Chapter 1 – Basic Charts

Creating an Bubble Chart

World Population in 2015



Chapter 1 – Basic Charts

Creating an Word Cloud

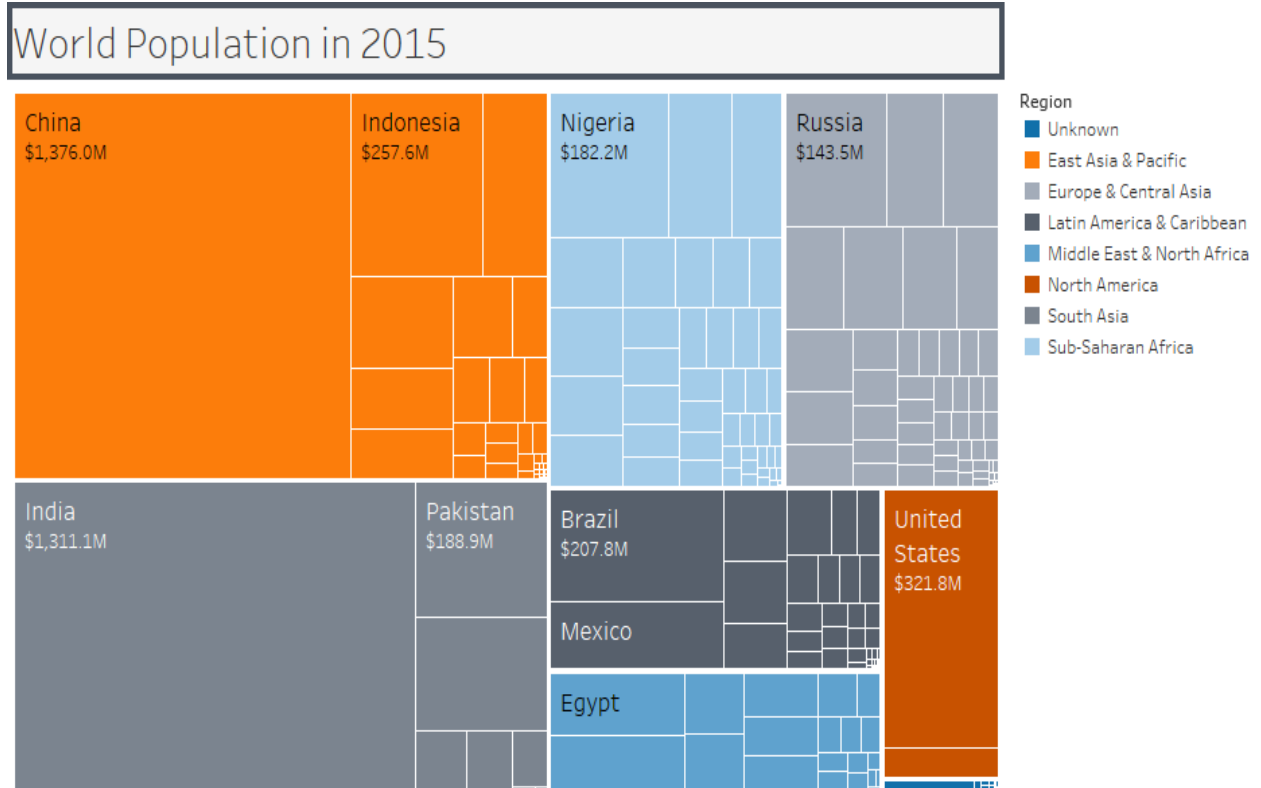
Most Popular Baby Names in the US from 1910-2012



I have used different font from the what has been mentioned in text book.

Chapter 1 – Basic Charts

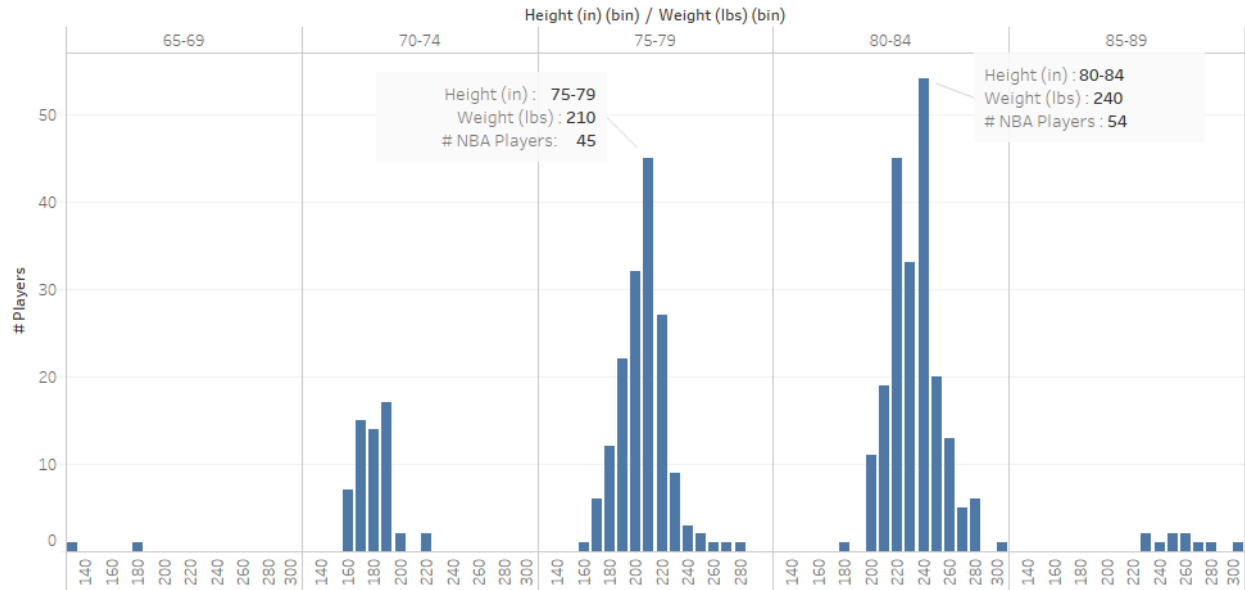
Creating an Tree Map



Chapter 2 – Advanced Charts

Creating a Histogram

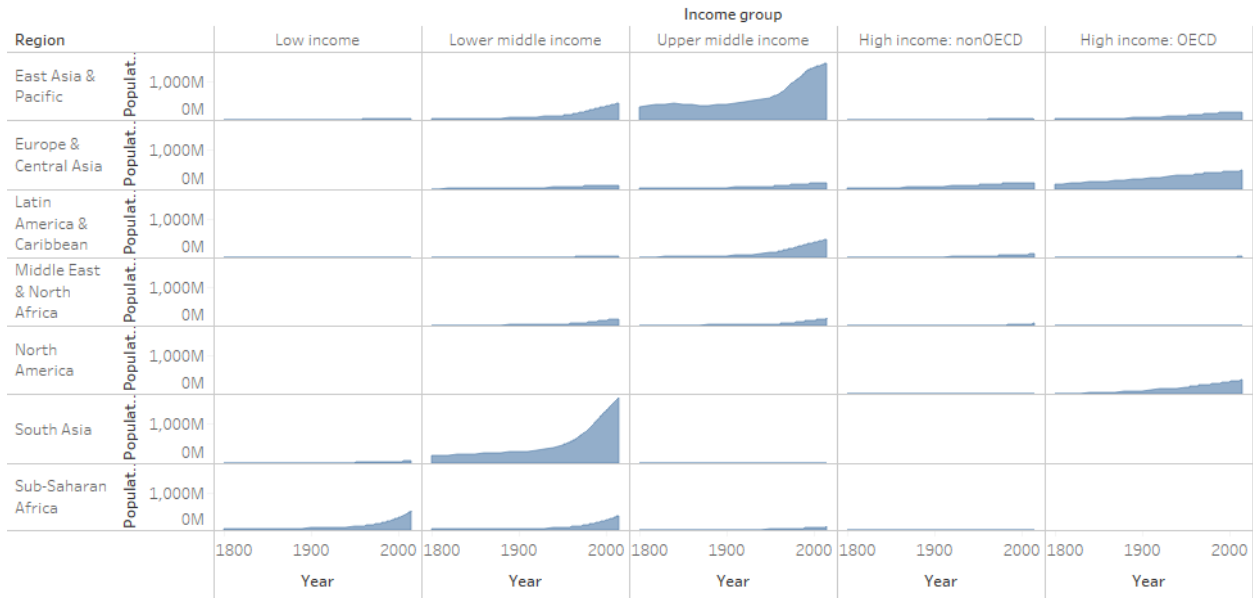
What are the height and weight distributions of NBA players in 2009?



Chapter 2 – Advanced Charts

Creating Small Multiple Chart

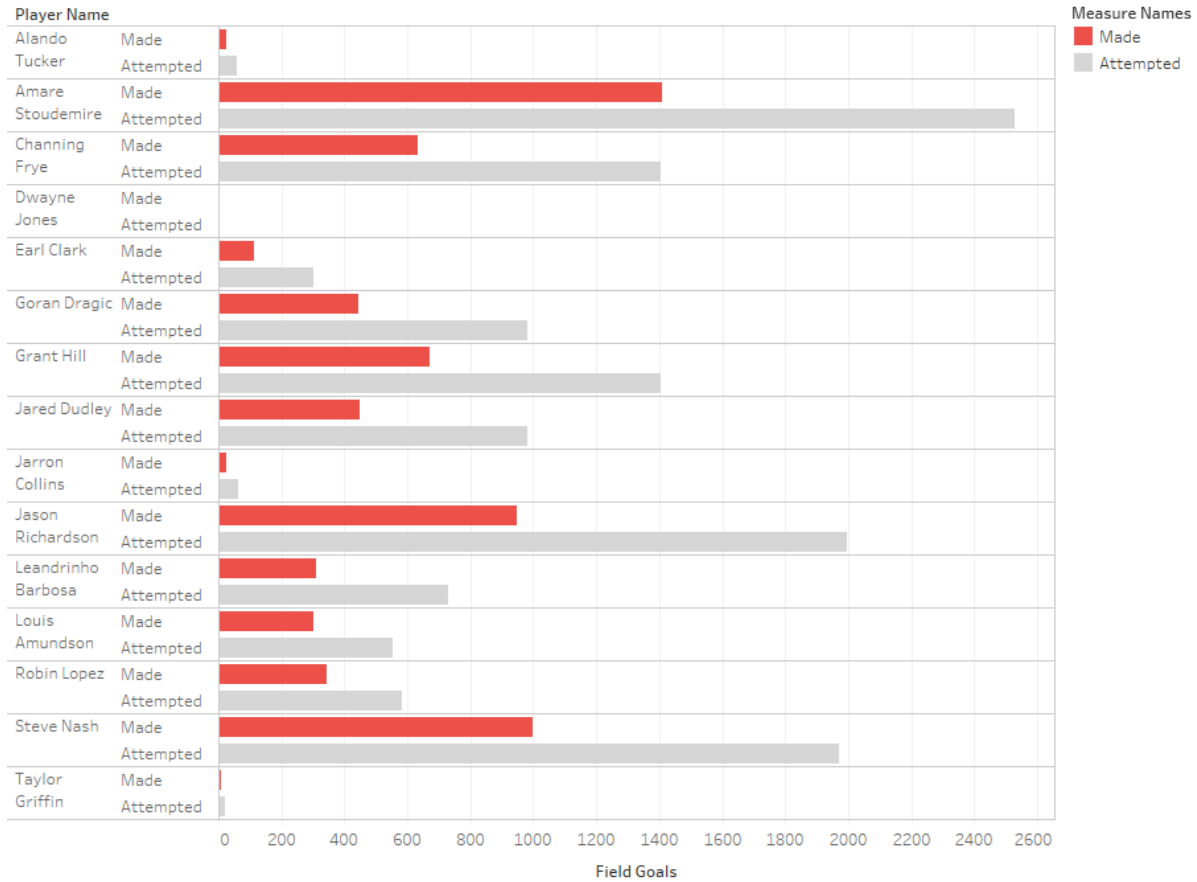
World Population by Region and Income Group



Chapter 2 – Advanced Charts

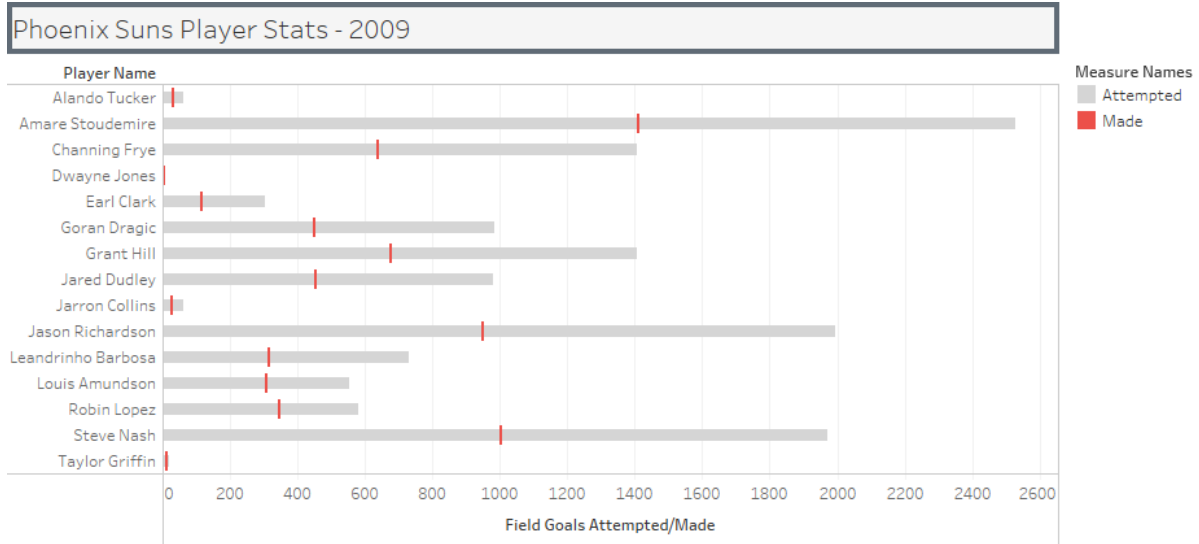
Creating Shared Axis Chart

Phoenix Suns Player Stats - 2009



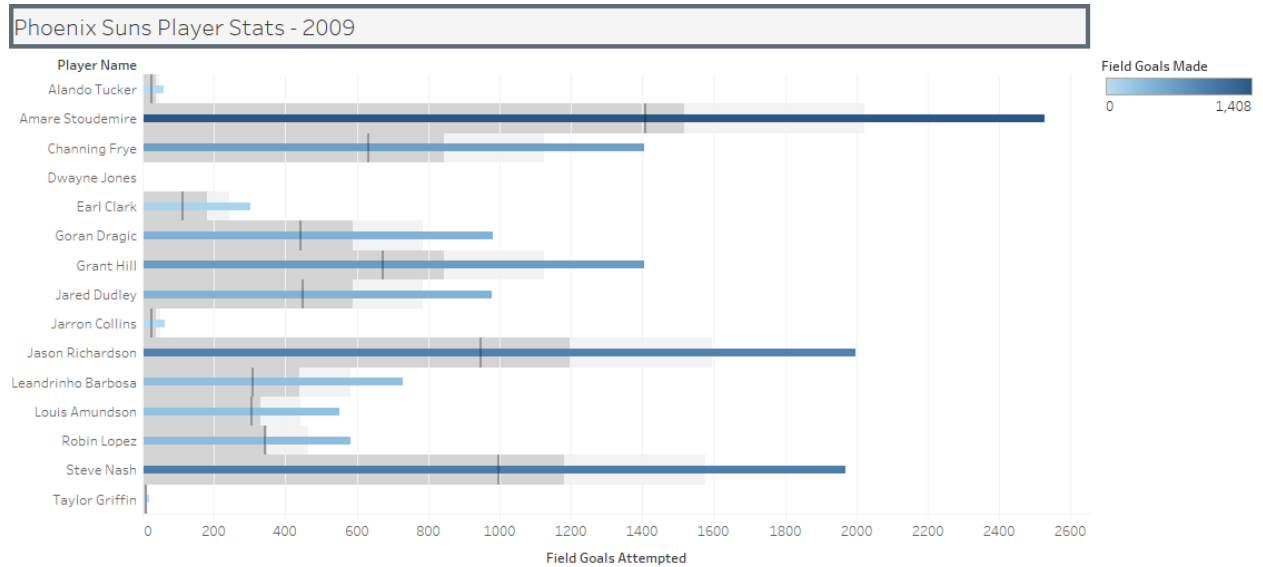
Chapter 2 – Advanced Charts

Creating Combo Chart



Chapter 2 – Advanced Charts

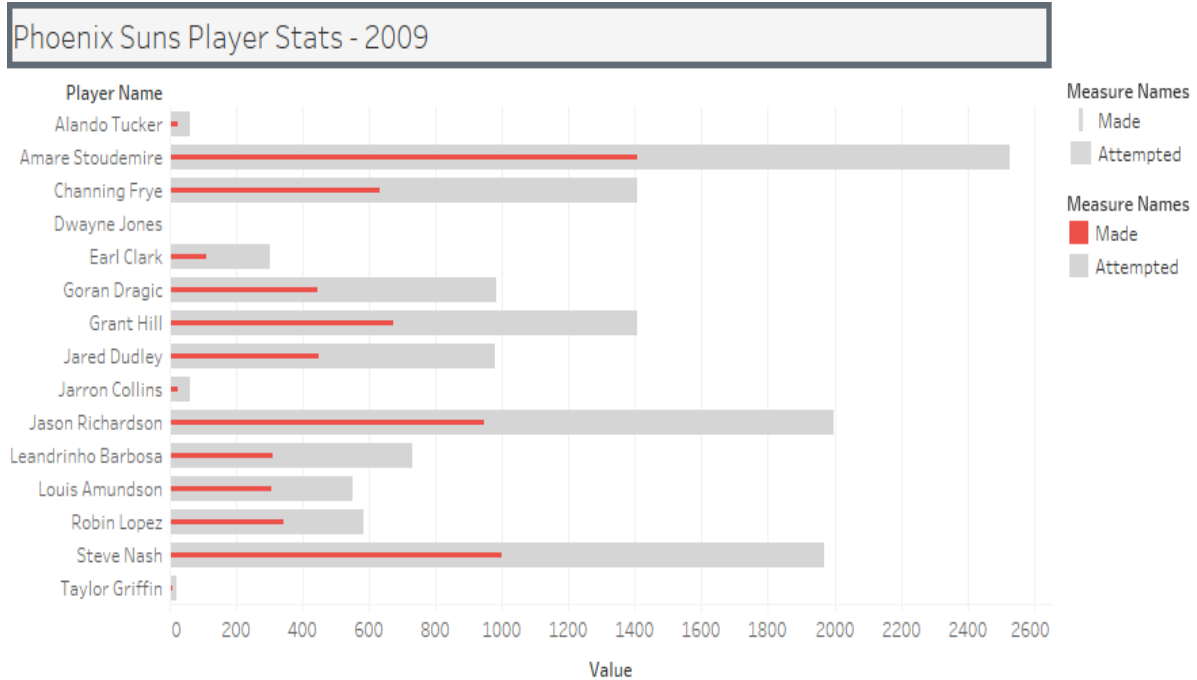
Creating Bullet Chart



The light grey shade is not visible at the end while copying the data.

Chapter 2 – Advanced Charts

Creating Bar in Bar chart



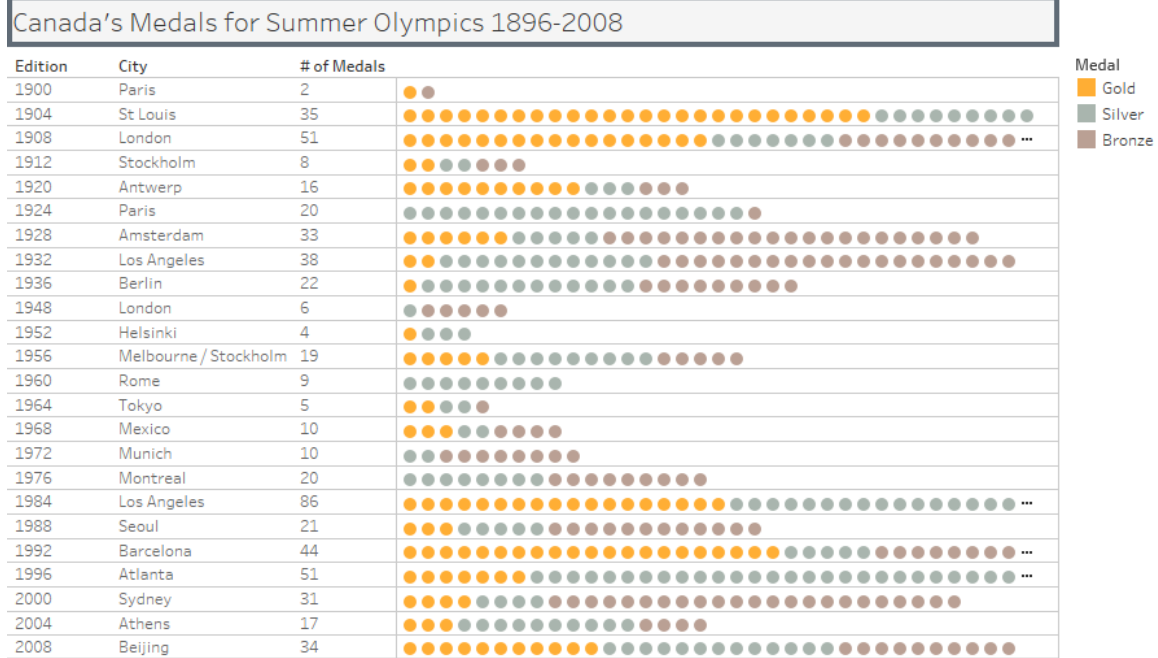
Chapter 2 – Advanced Charts

Creating Donut chart



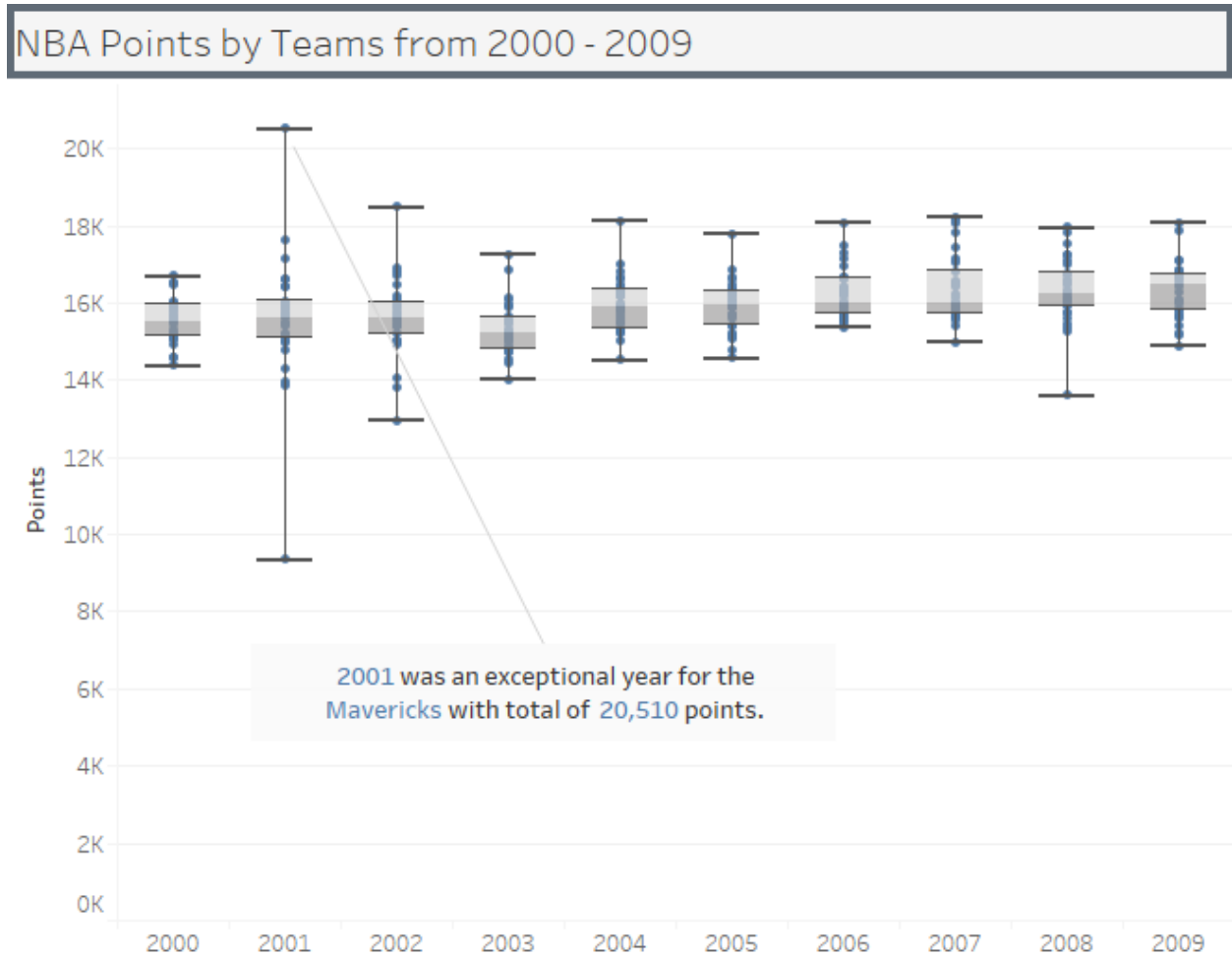
Chapter 2 – Advanced Charts

Creating Unit chart



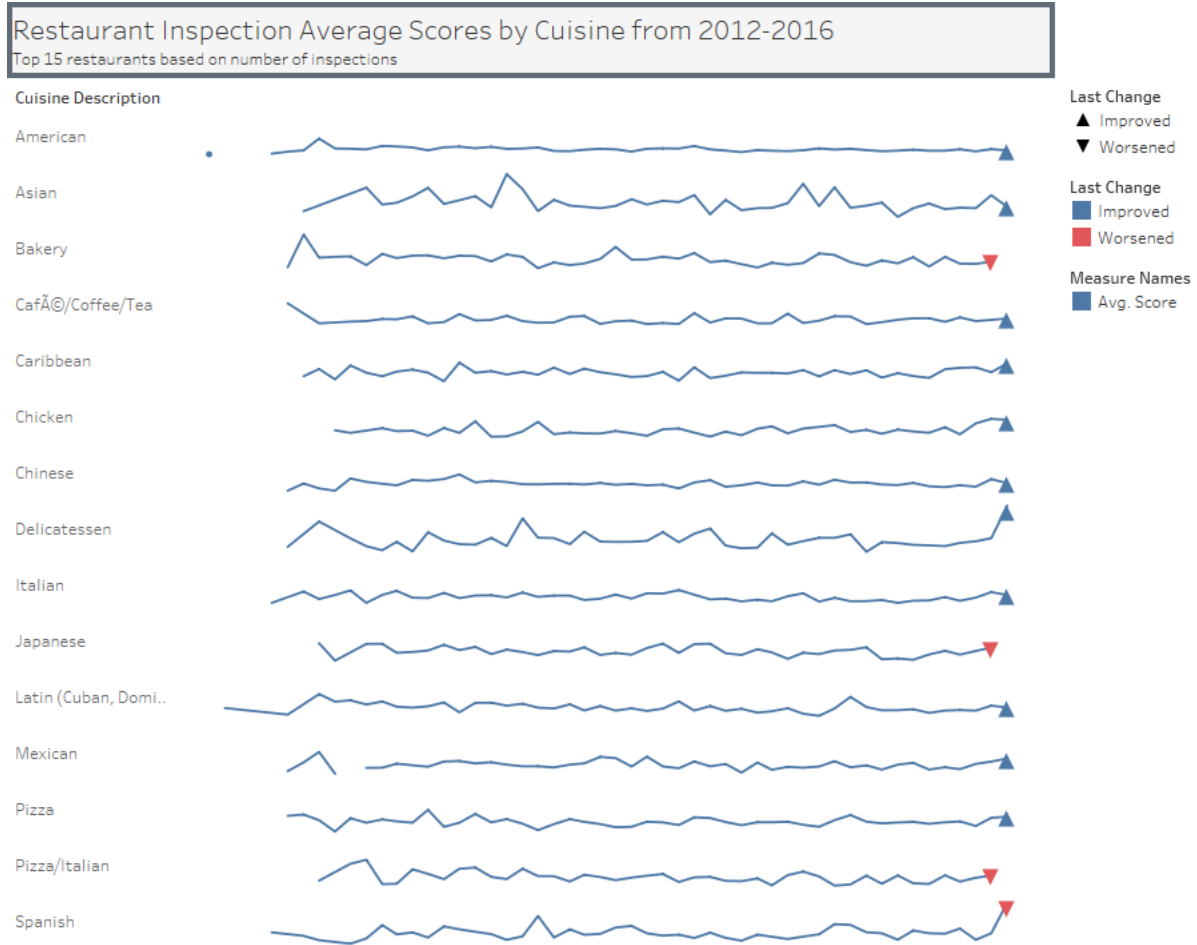
Chapter 2 – Advanced Charts

Creating a Box and Whisker Chart



Chapter 2 – Advanced Charts

Creating a Sparkline with Indicators



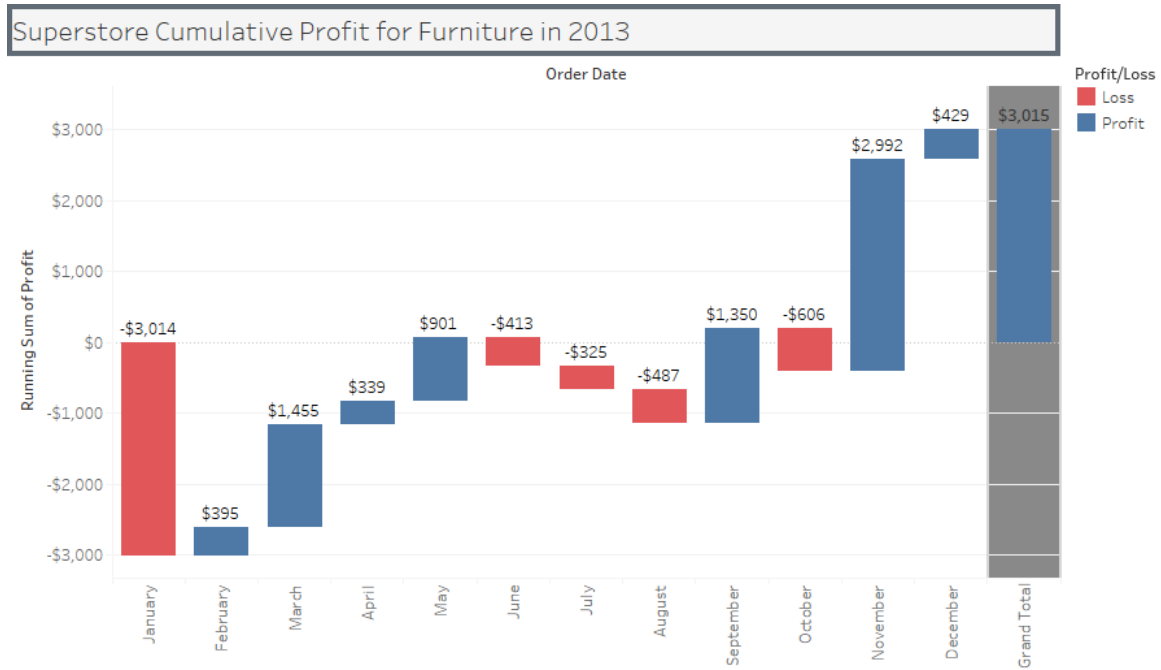
Chapter 2 – Advanced Charts

Creating a KPI Text Table

This Table was omitted from assignment.

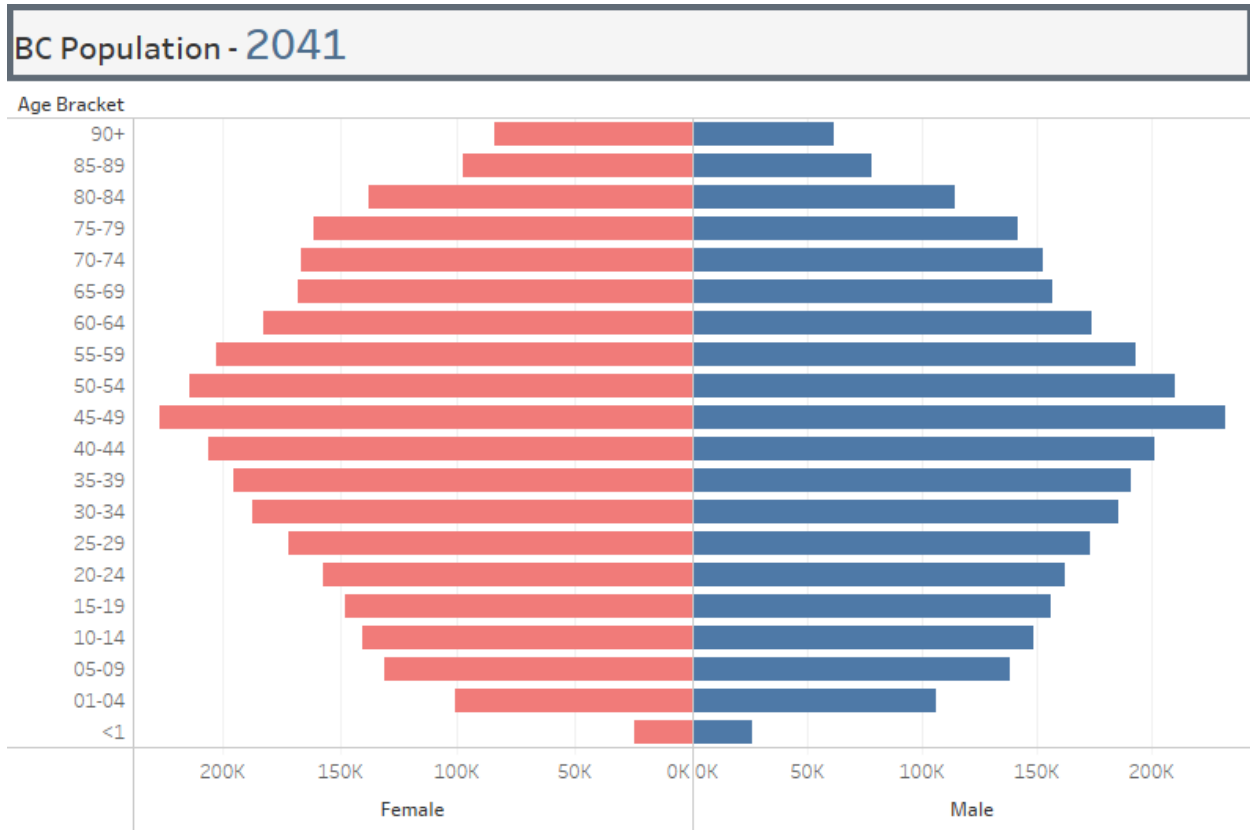
Chapter 2 – Advanced Charts

Creating a Waterfall Chart



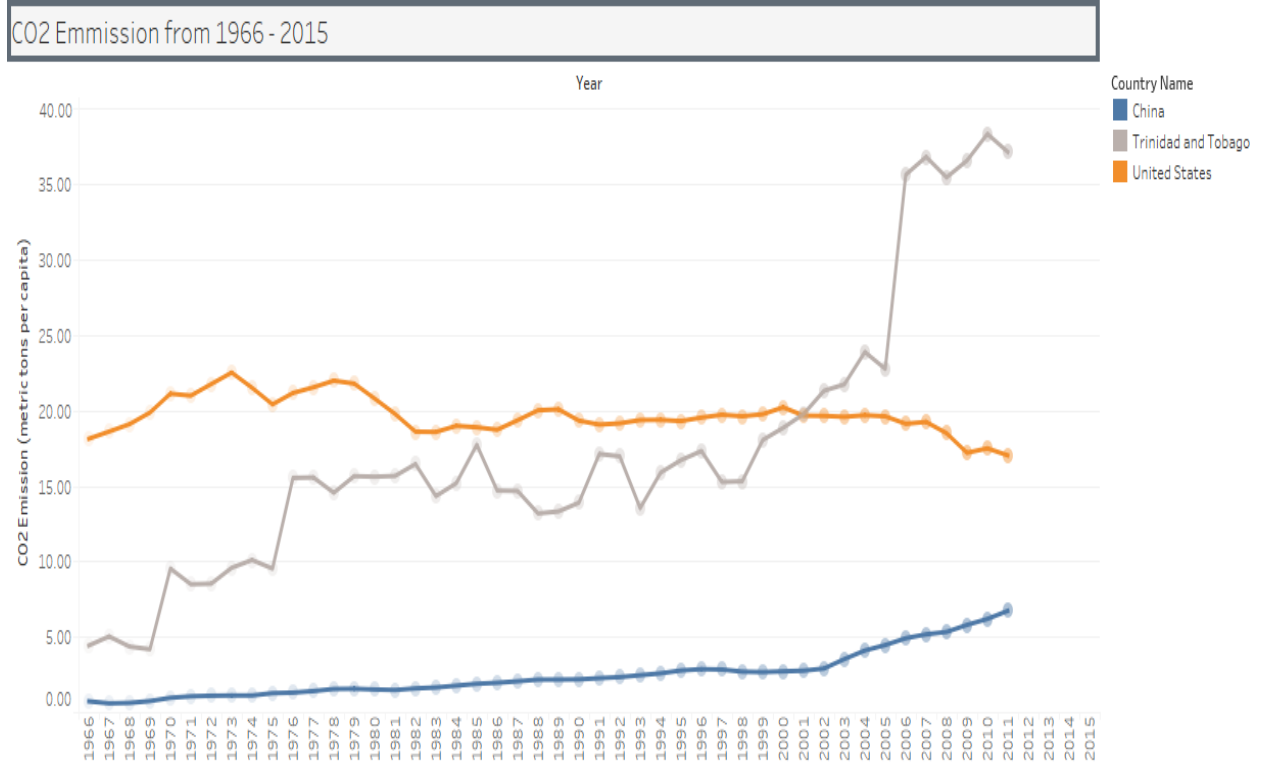
Chapter 2 – Advanced Charts

Creating Population Pyramid



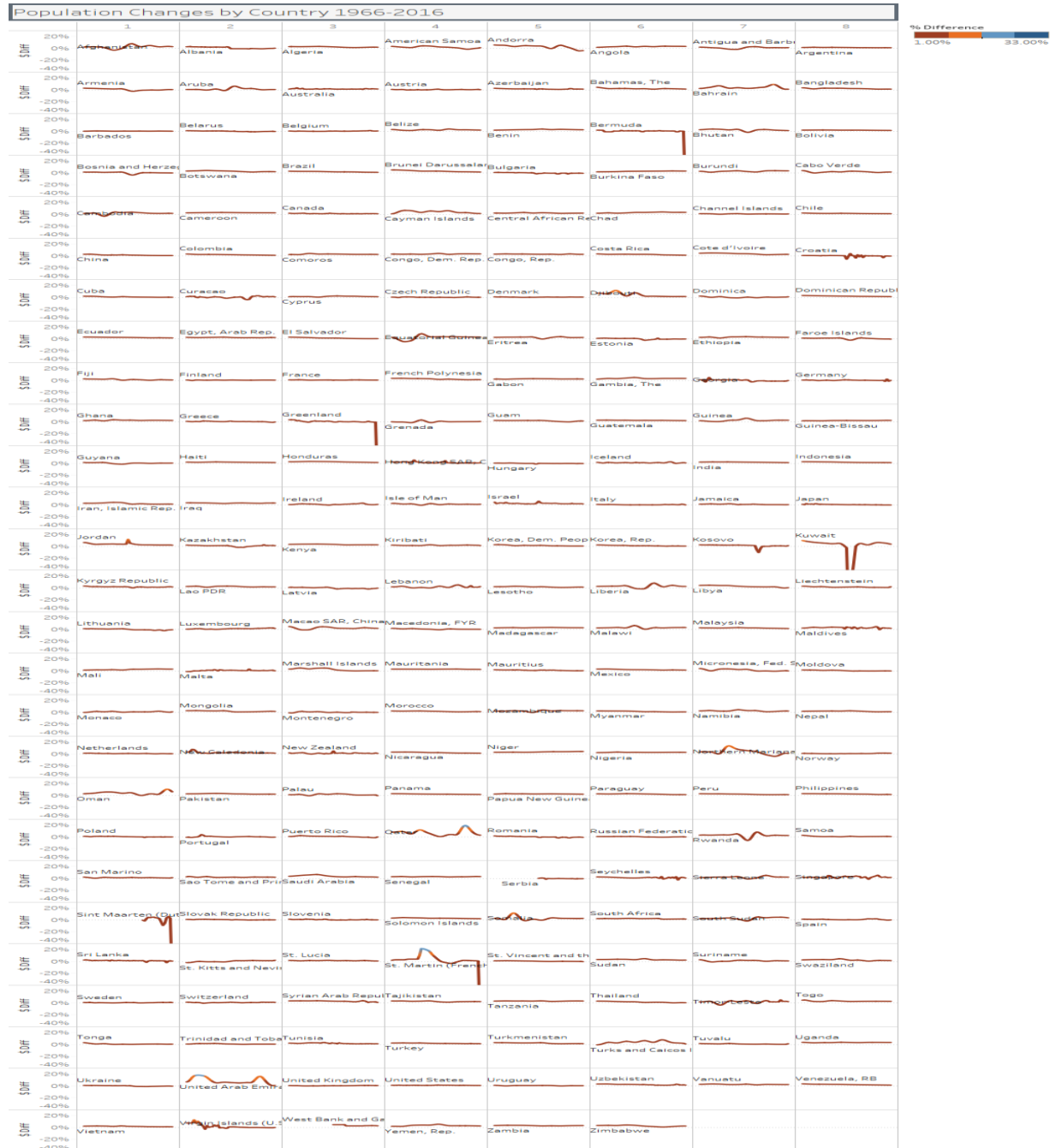
Chapter 3 – Interactivity

Creating a Motion Chart

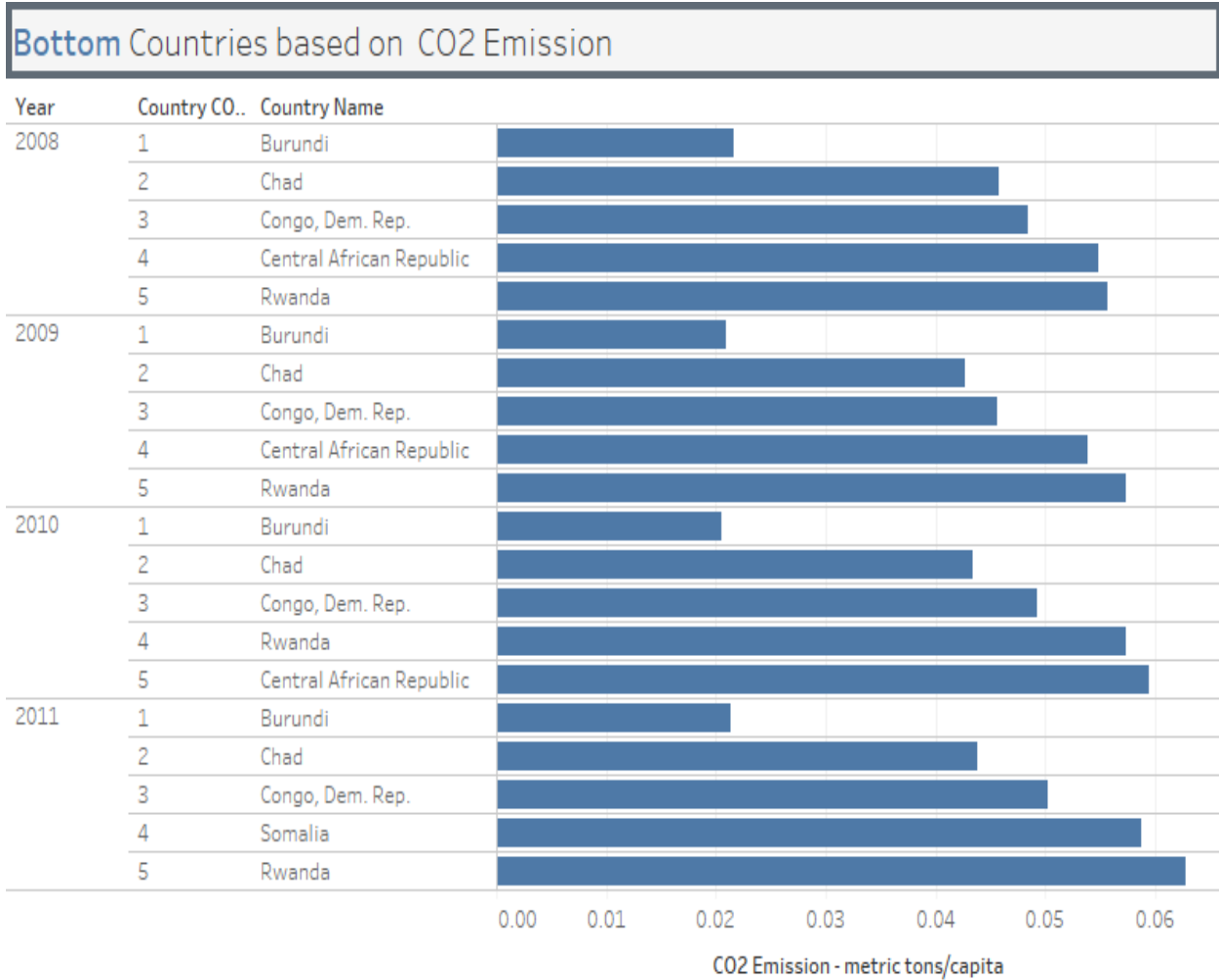


Chapter 3 – Interactivity

Creating a Dynamic Column/Row Trellis Chart

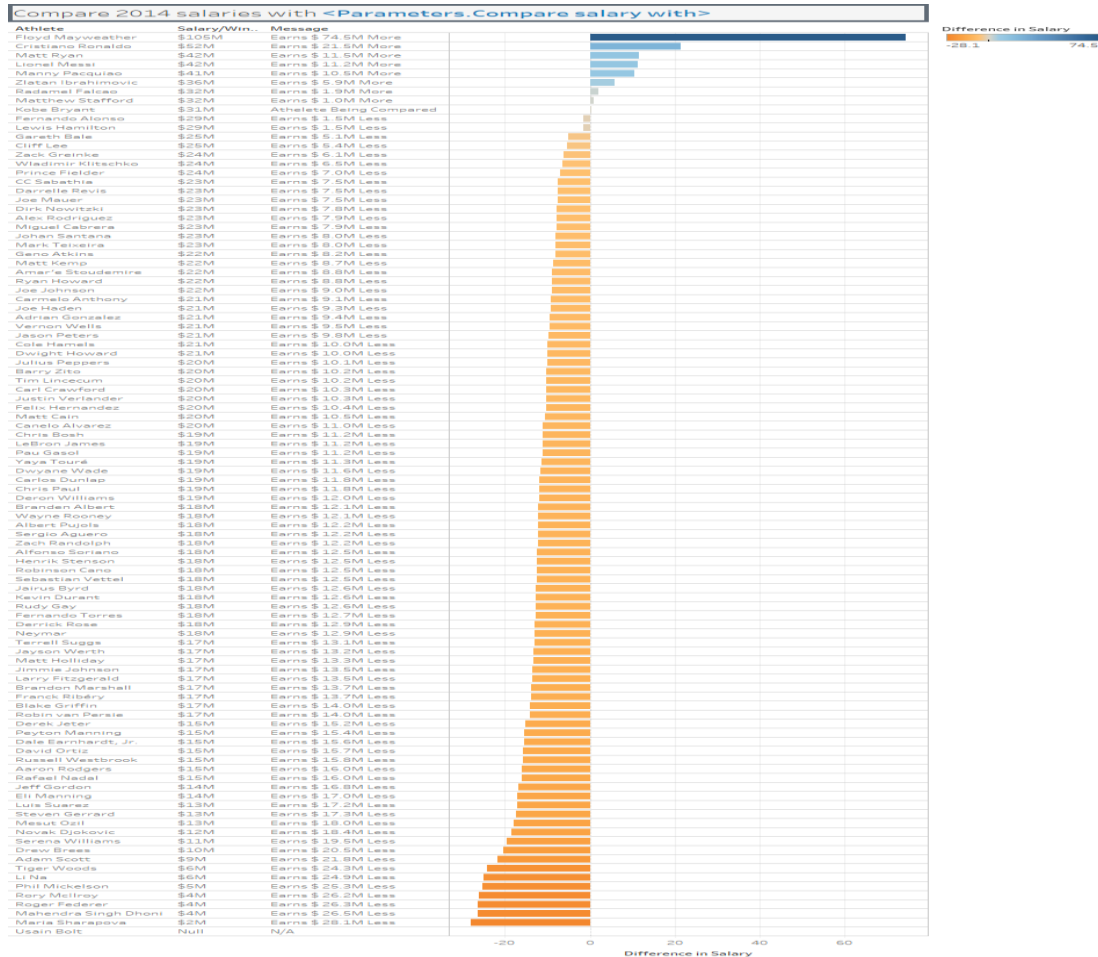


Chapter 3 – Interactivity
Creating a Top/Bottom N filter



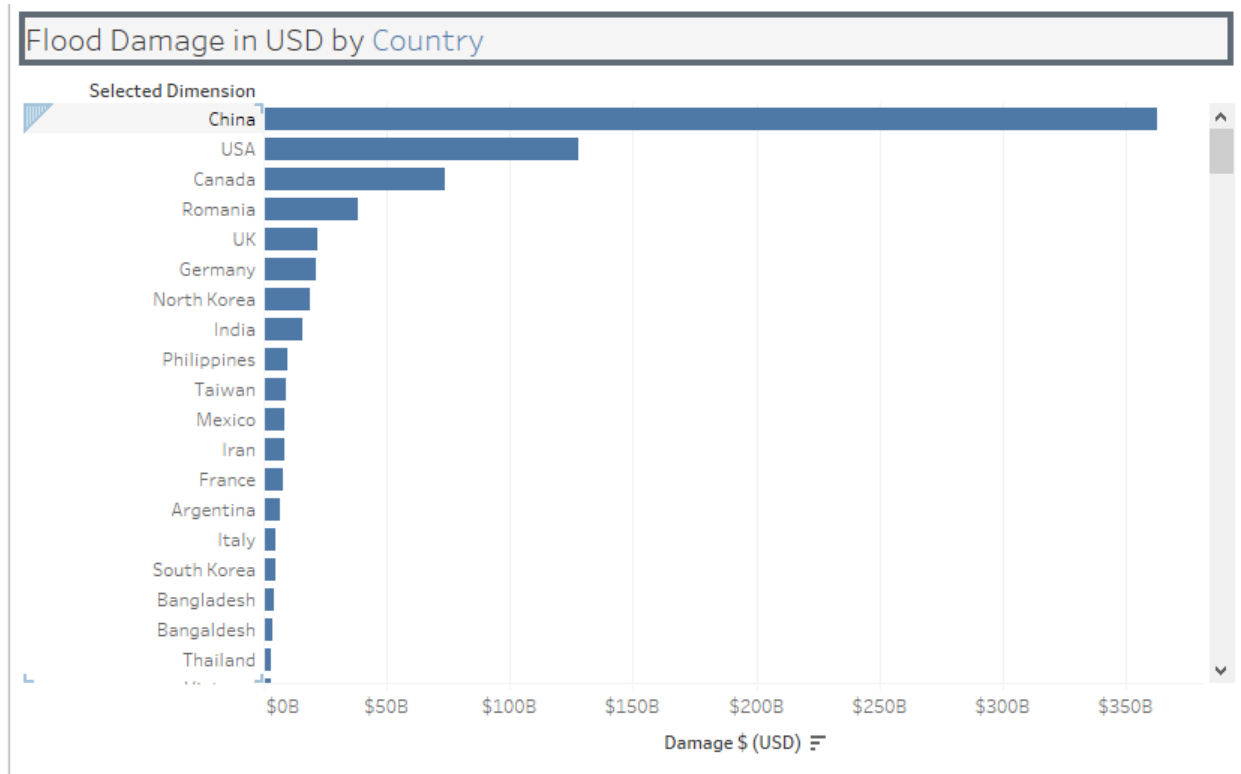
Chapter 3 – Interactivity

Comparing one to everything else



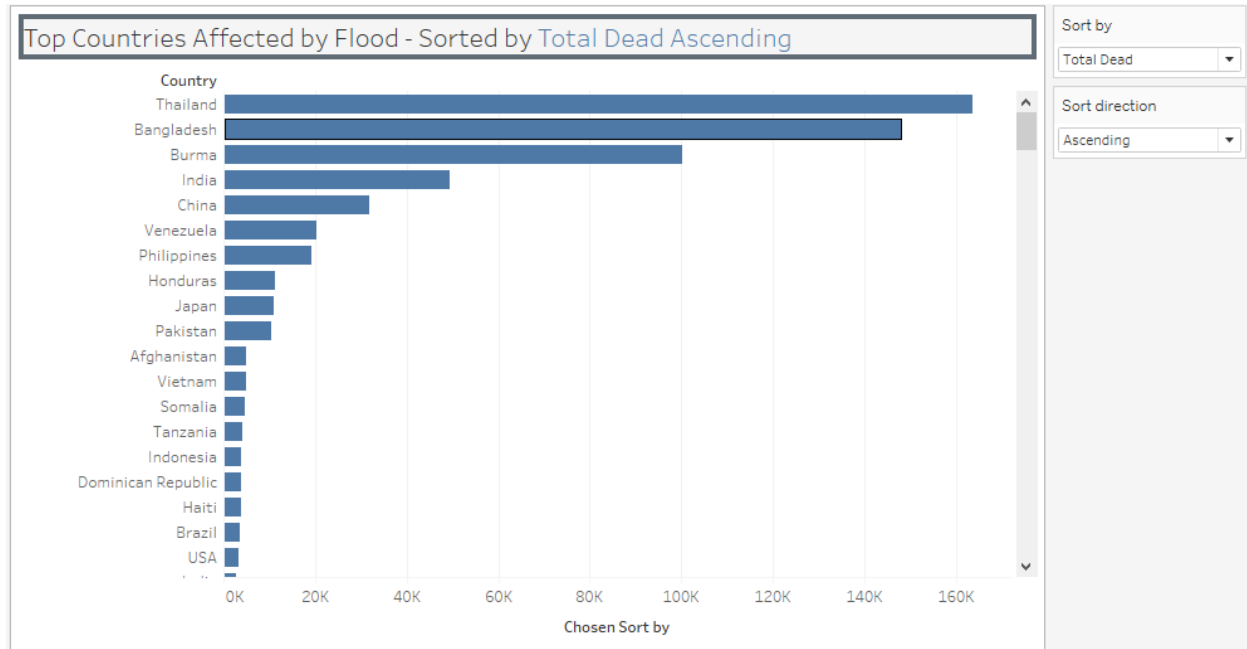
Chapter 3 – Interactivity

Dynamically displaying dimensions



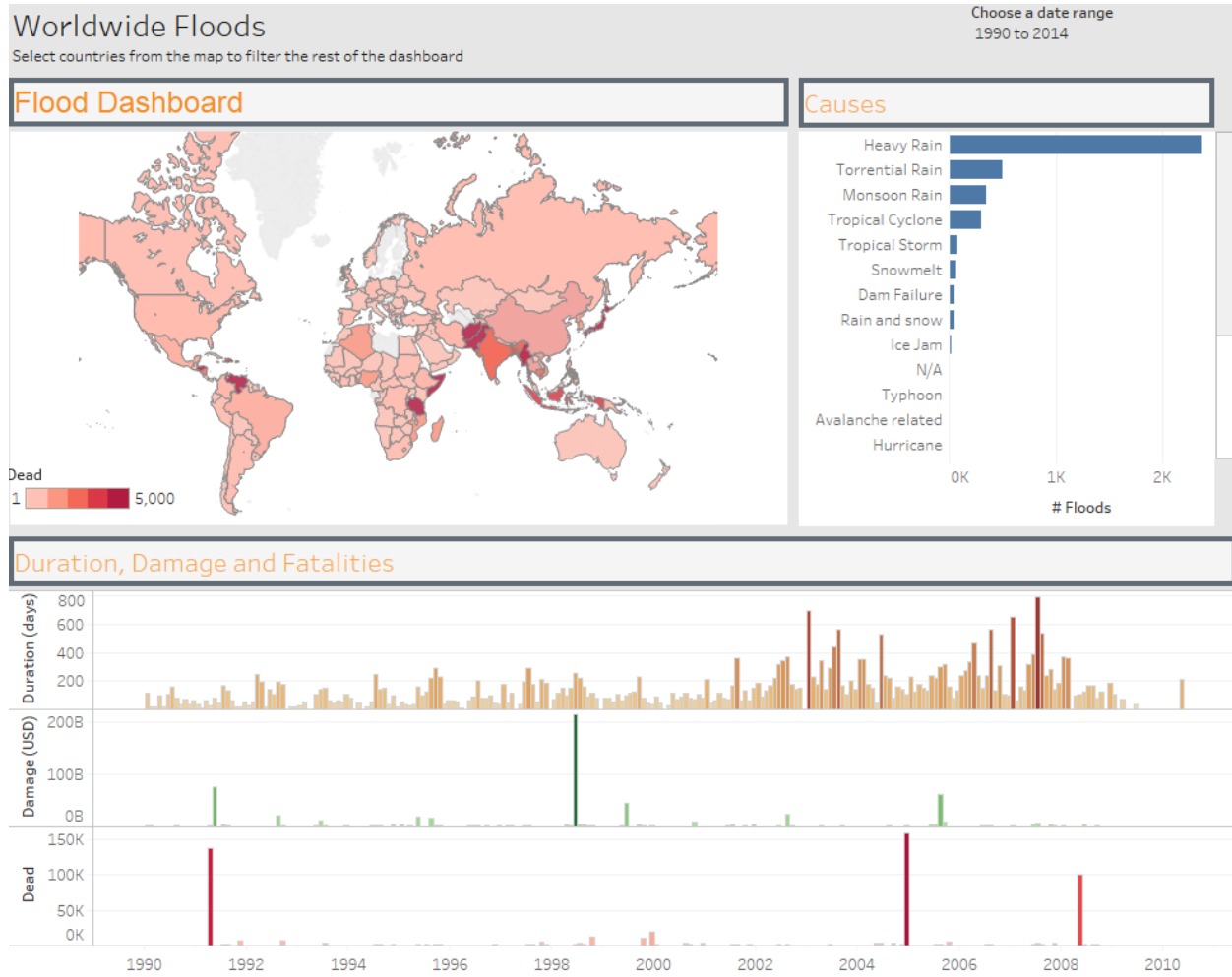
Chapter 3 – Interactivity

Dynamically displaying and sorting measures



Chapter 4 – Dashboards and Story Points

Creating a Filter Action



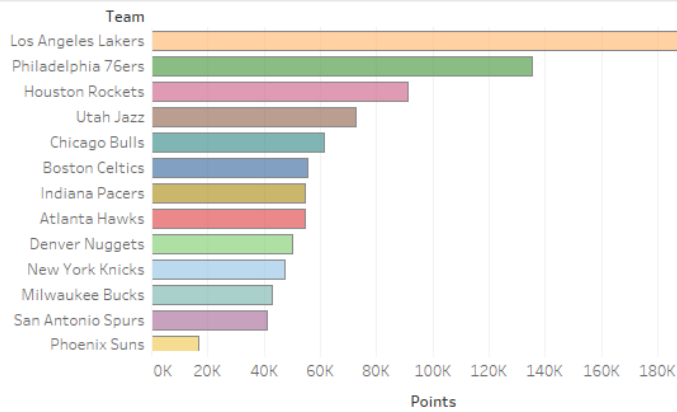
Chapter 4 – Dashboards and Story Points

Creating a Highlight Action

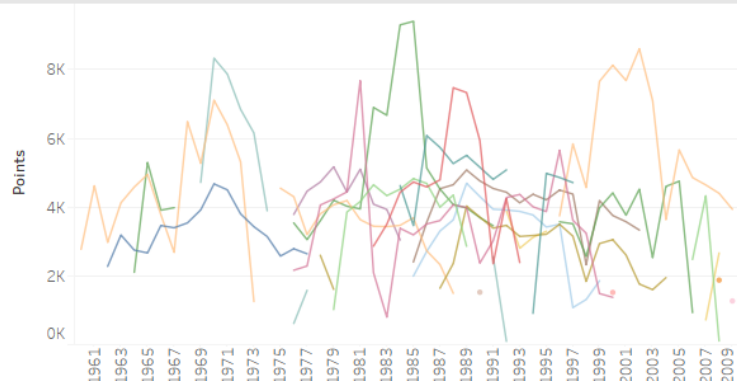
Top 20 Teams by Points (1959-2009)

Hover over a team name to highlight corresponding players and point history.

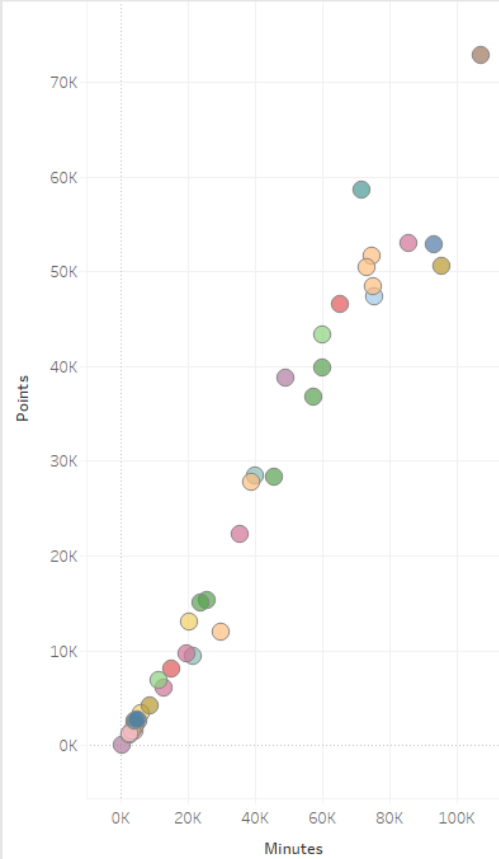
Teams



Points History

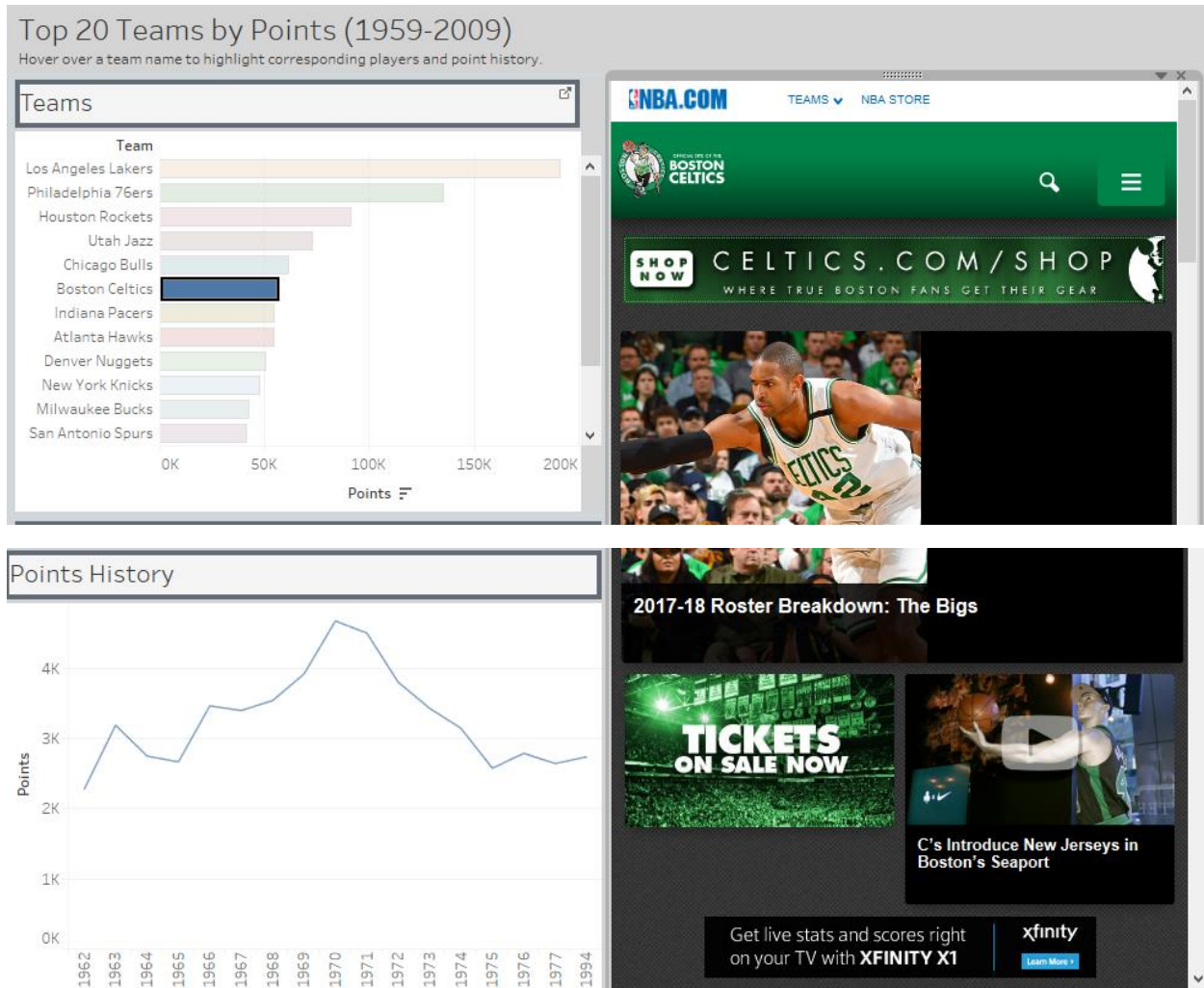


Players



Chapter 4 – Dashboards and Story Points

Creating a URL Action



I have copied the image in 2 parts using snipping tool.

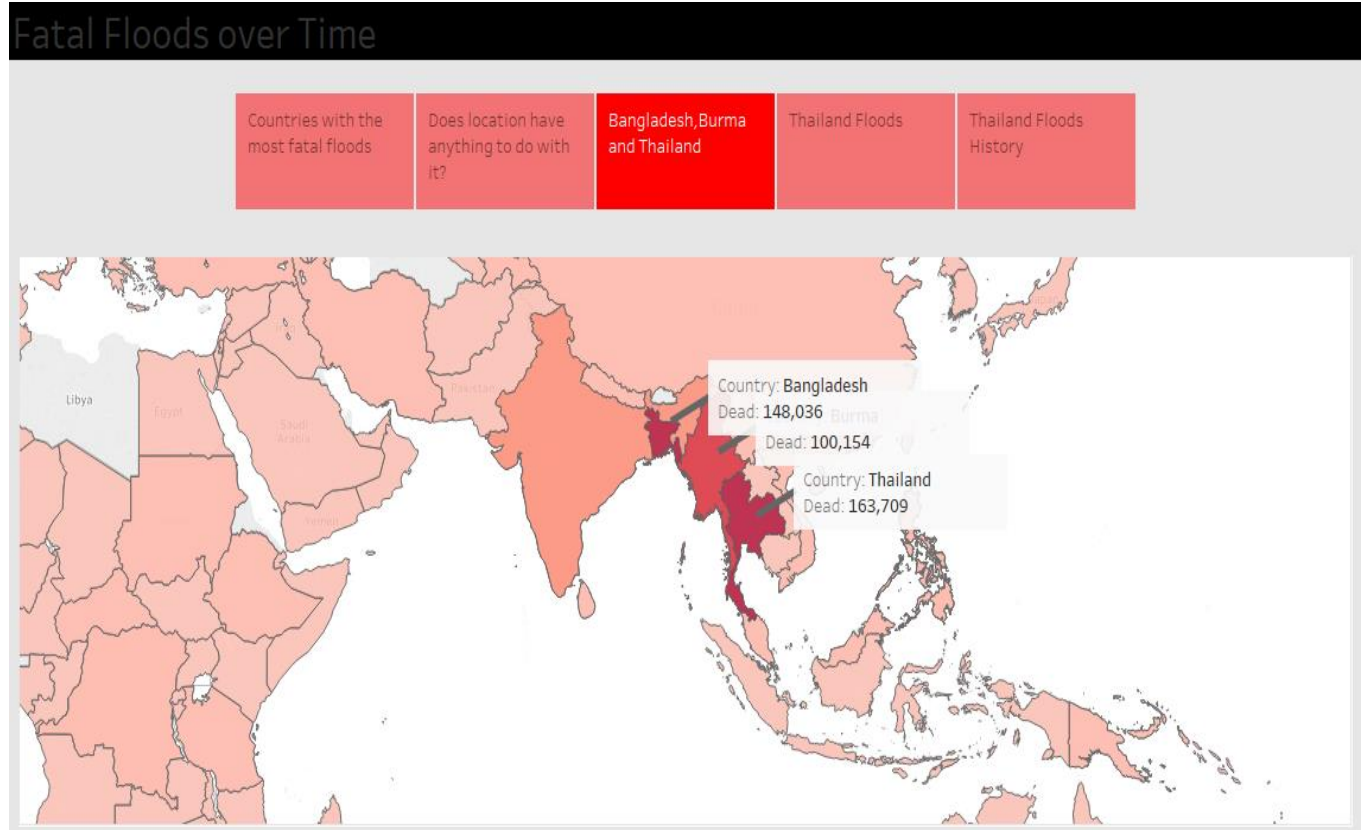
Chapter 4 – Dashboards and Story Points

Creating an Infographic-like dashboard



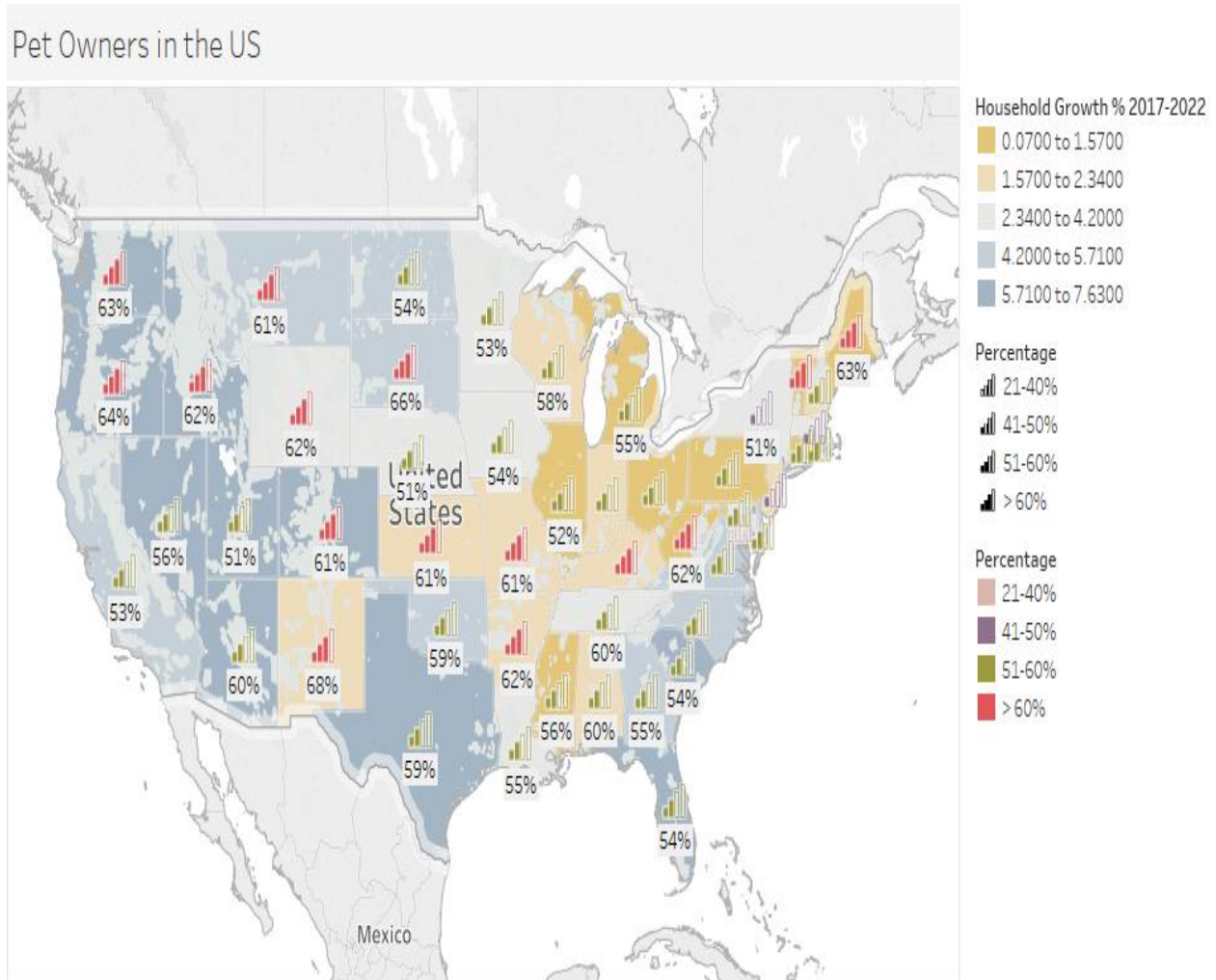
Chapter 4 – Dashboards and Story Points

Creating Story Points



Chapter 5 – Maps and Geospatial Visualization

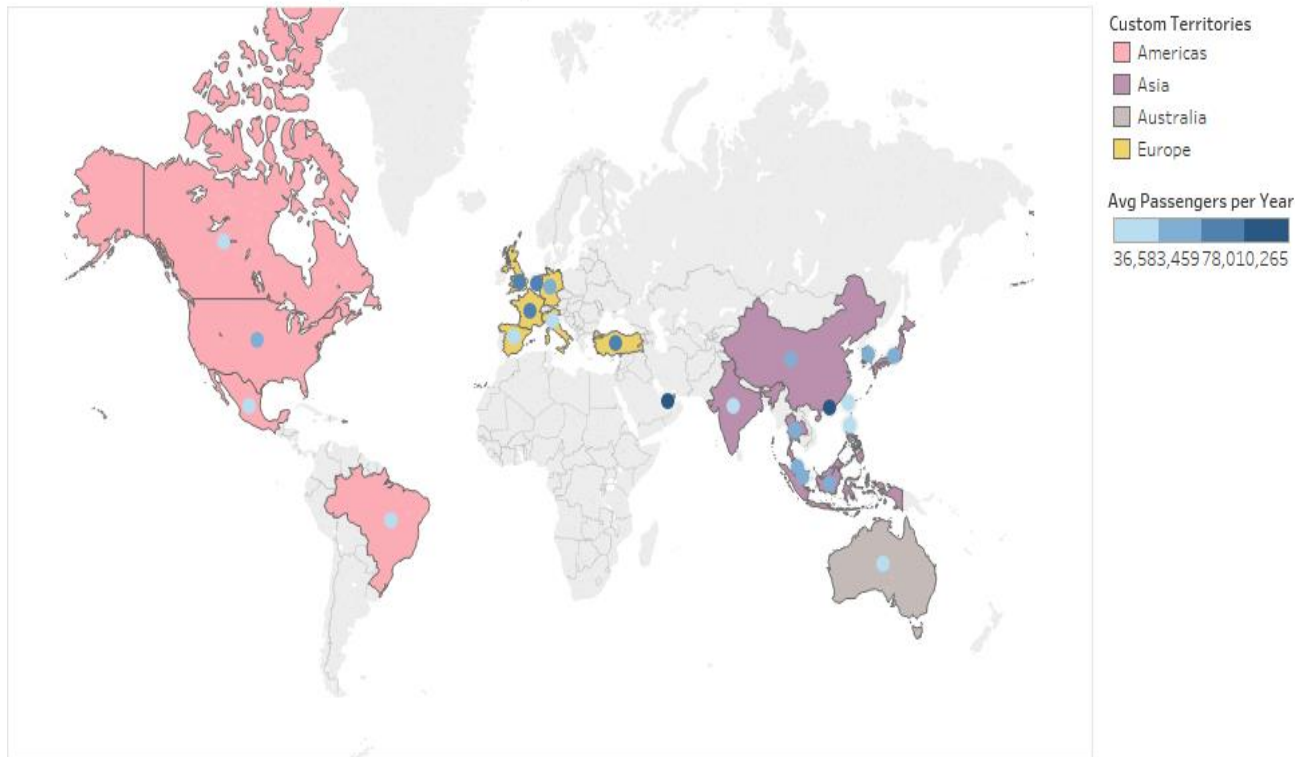
Adding data layers to map



Chapter 5 – Maps and Geospatial Visualization

Creating custom territories

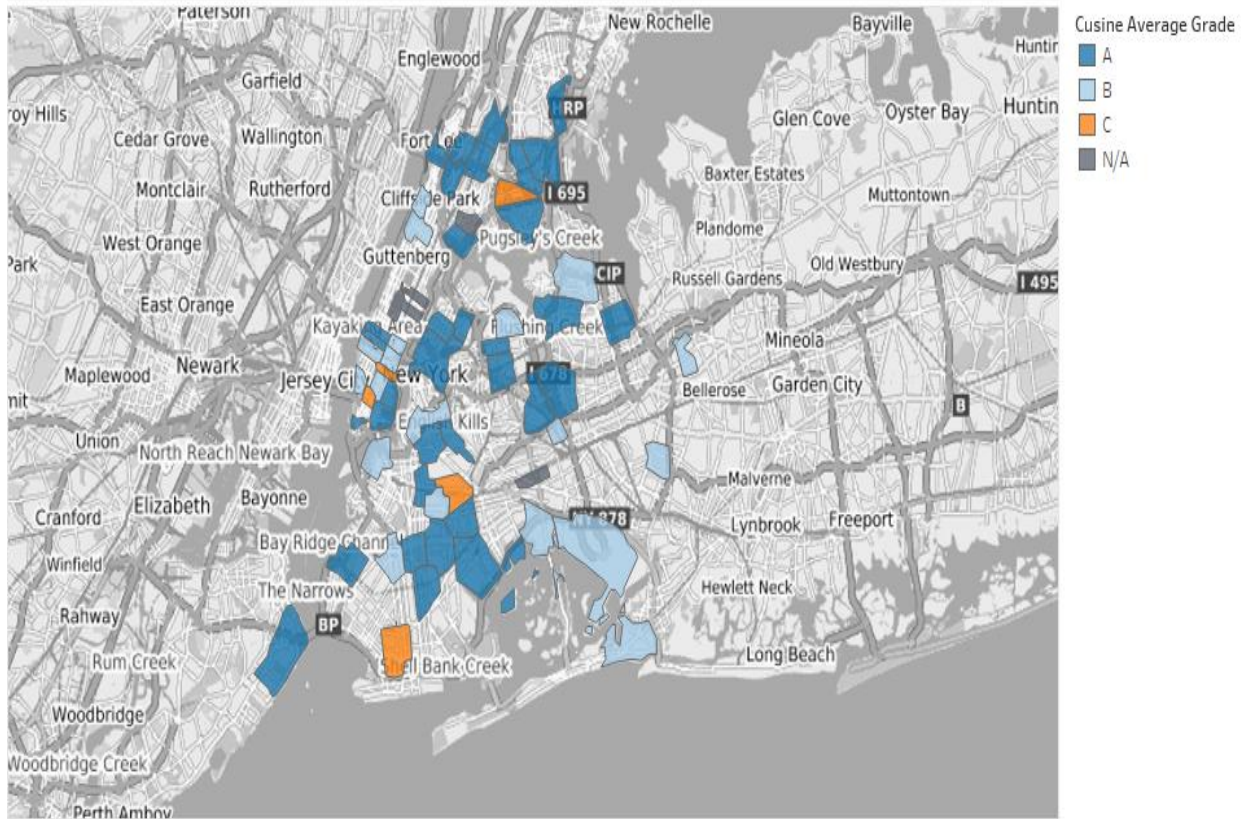
World's Busiest Airports (2014 and 2015)



Chapter 5 – Maps and Geospatial Visualization

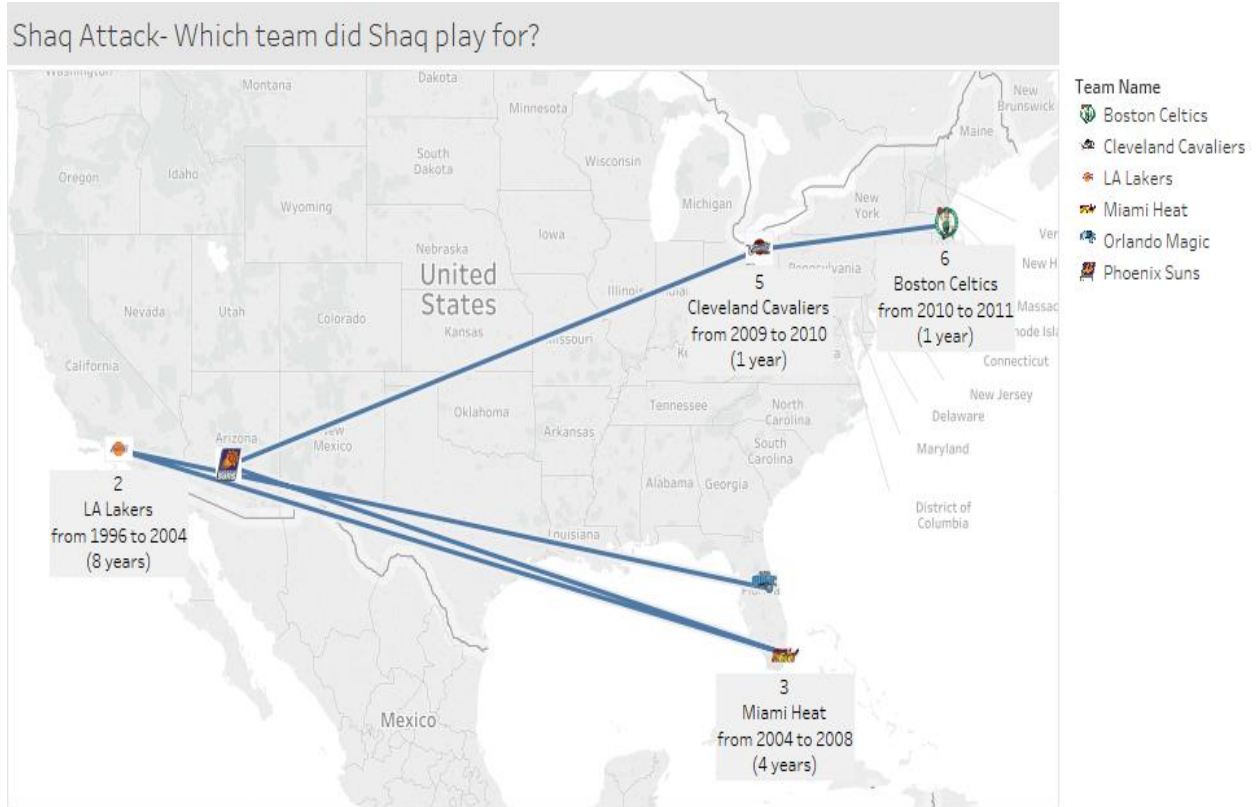
Working with WMS

New York McDonald's Restaurant Inspections



Chapter 5 – Maps and Geospatial Visualization

Using path to display movement in map



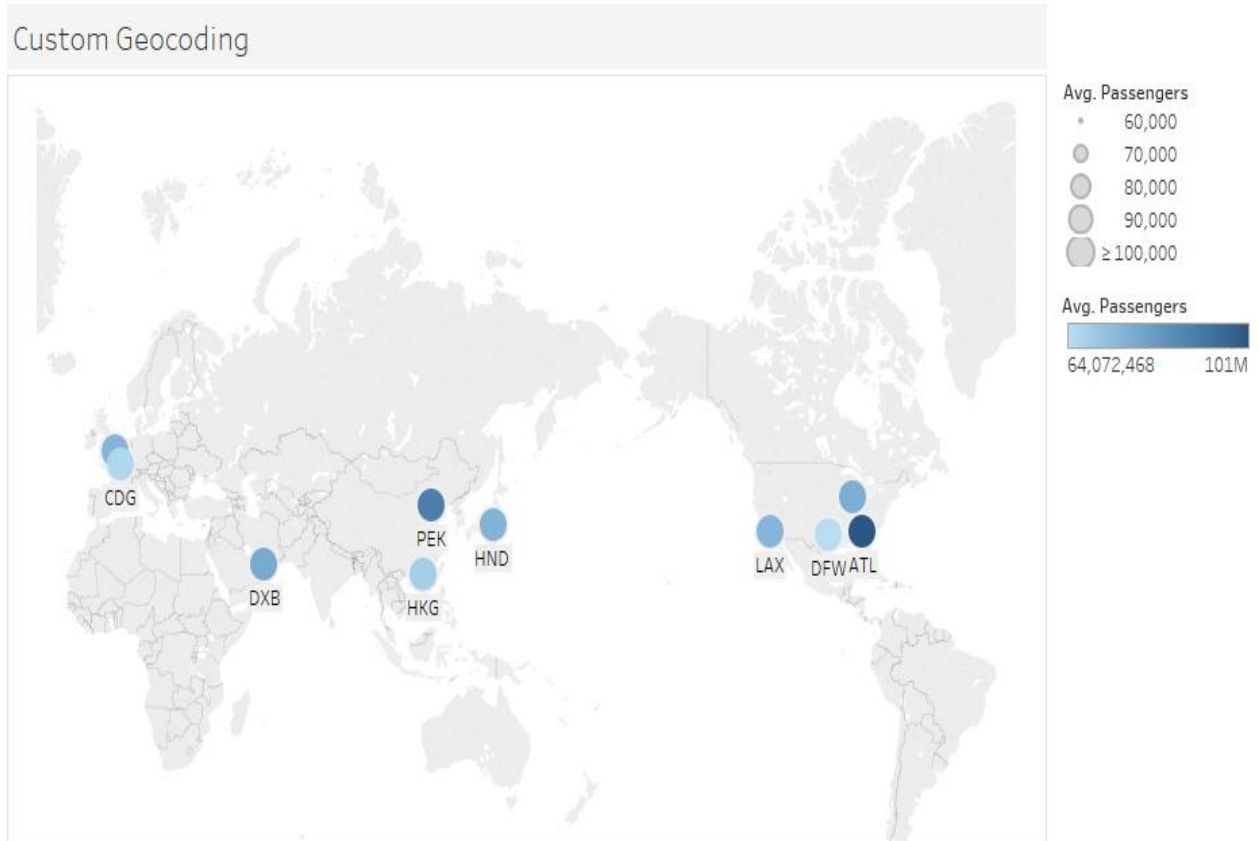
Chapter 5 – Maps and Geospatial Visualization

Mapping Custom polygons

This graph was omitted.

Chapter 5 – Maps and Geospatial Visualization

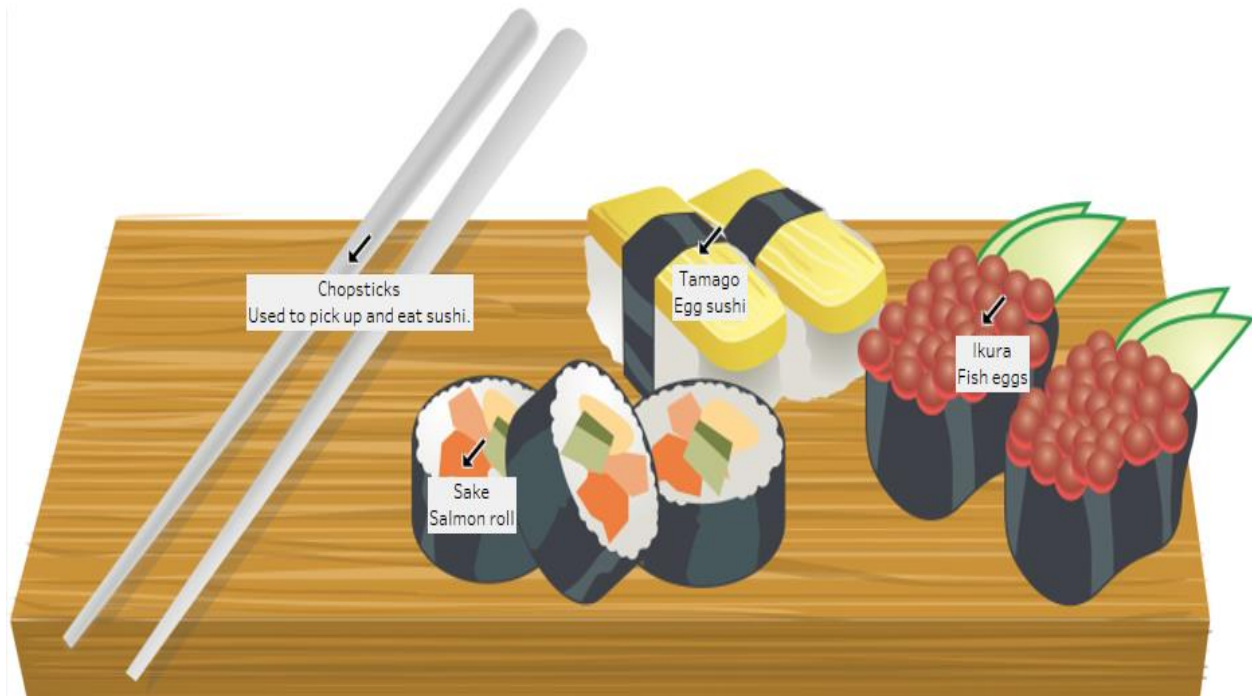
Importing custom geocoding



Chapter 5 – Maps and Geospatial Visualization

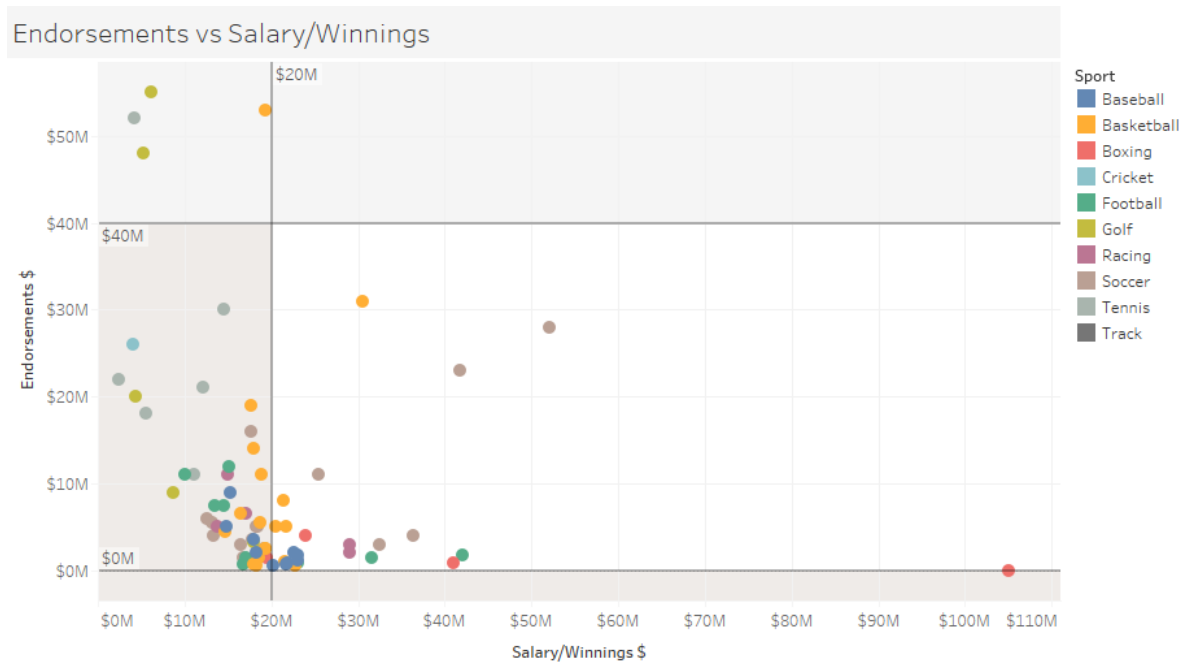
Using a custom image background

Sushi for beginners



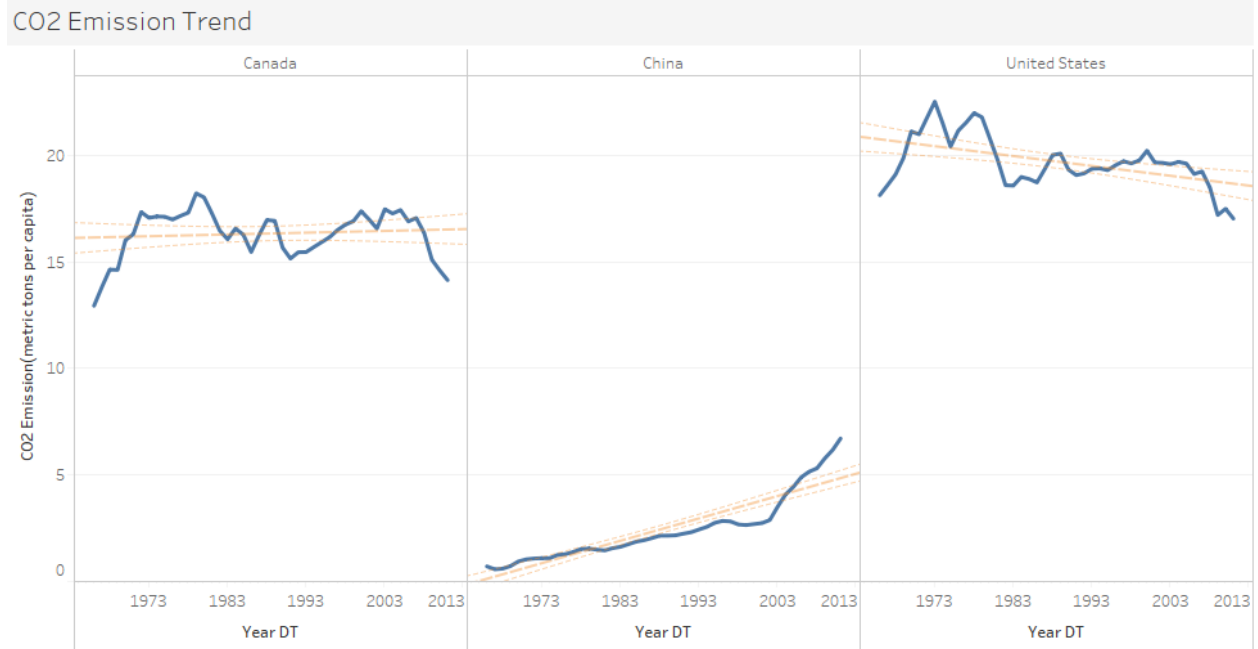
Chapter 6 – Analytics

Adding a constant line



Chapter 6 – Analytics

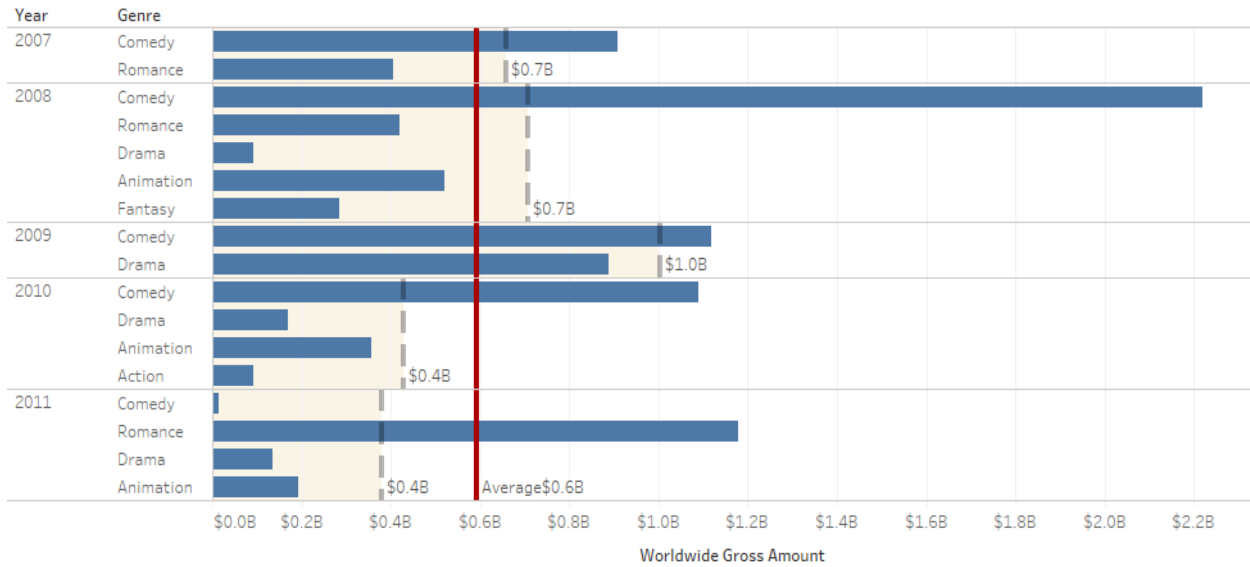
Adding a Trend Line



Chapter 6 – Analytics

Using a Reference Line

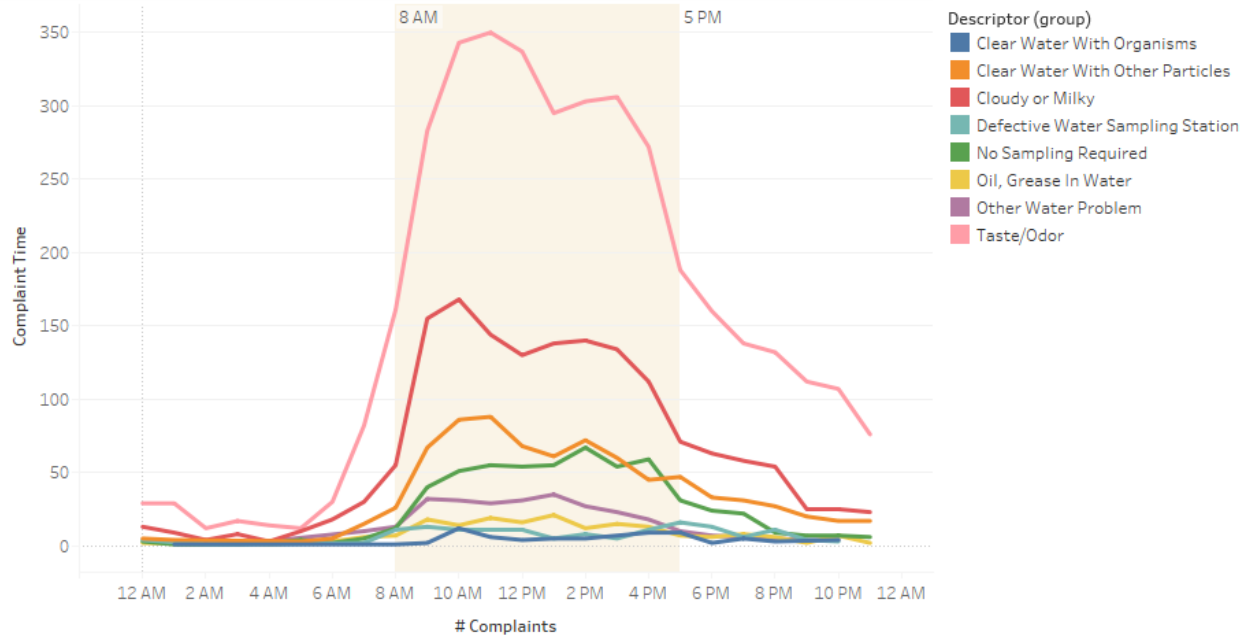
Top Movies Worldwide Gross Amount



Chapter 6 – Analytics

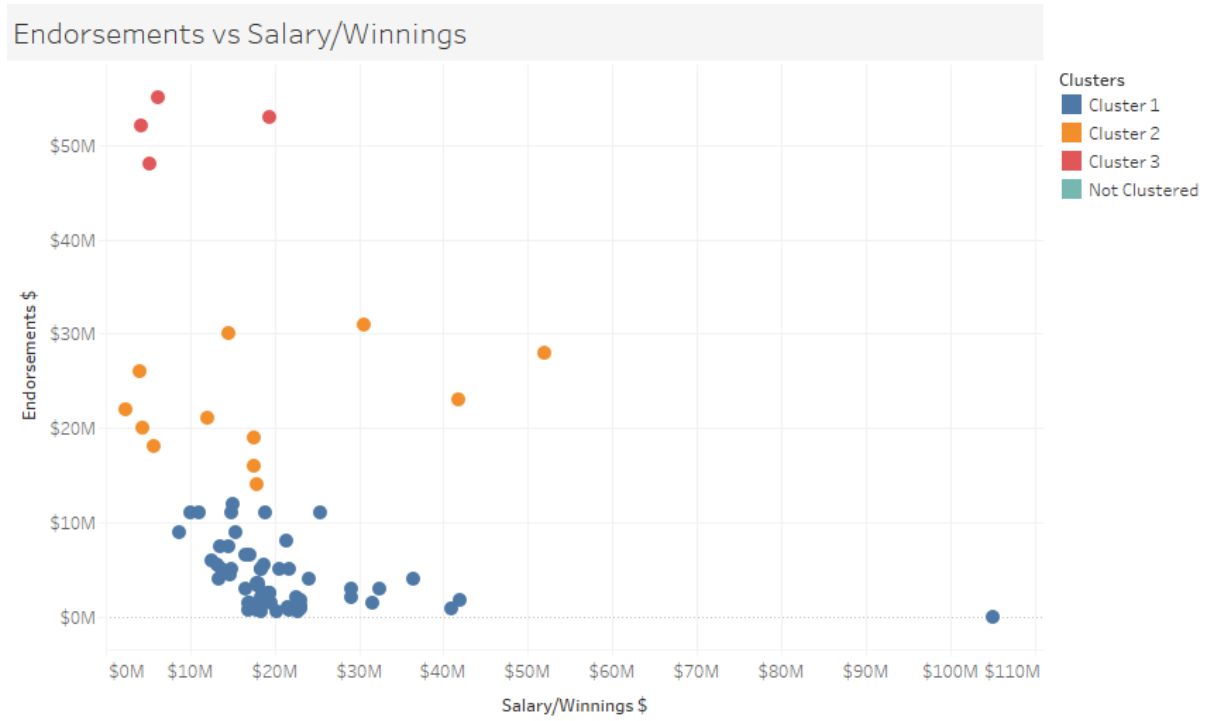
Adding a reference band

When do most water quality complaints happen in NYC?



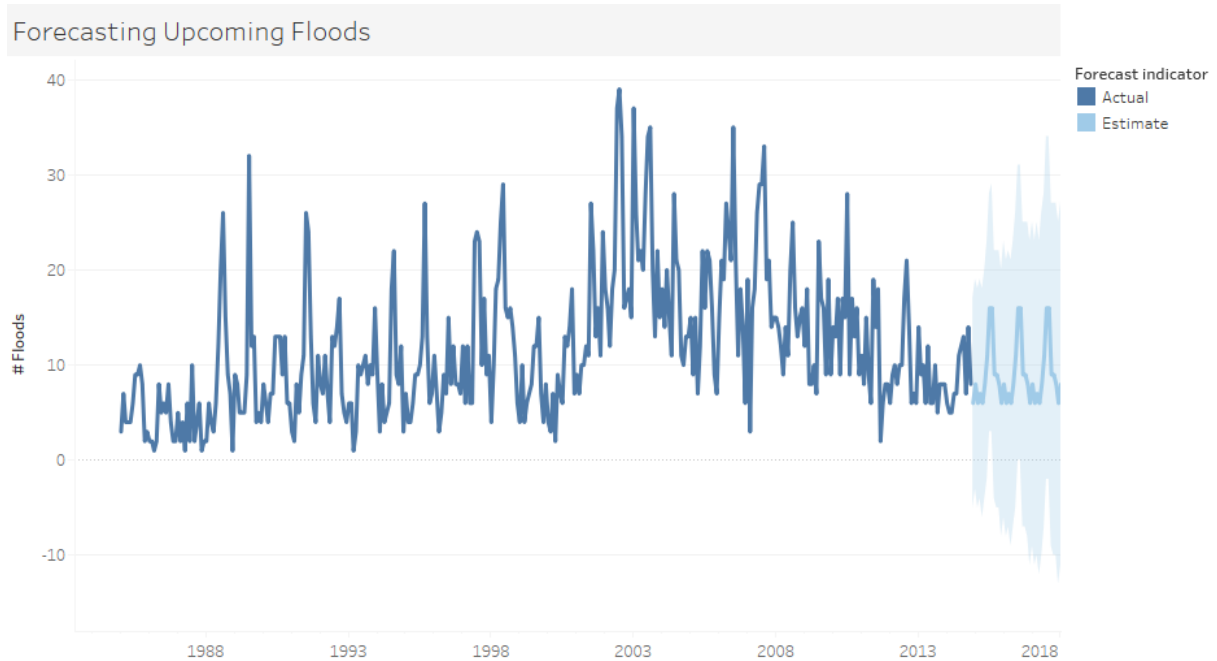
Chapter 6 – Analytics

Performing Cluster Analysis



Chapter 6 – Analytics

Visualizing Forecast

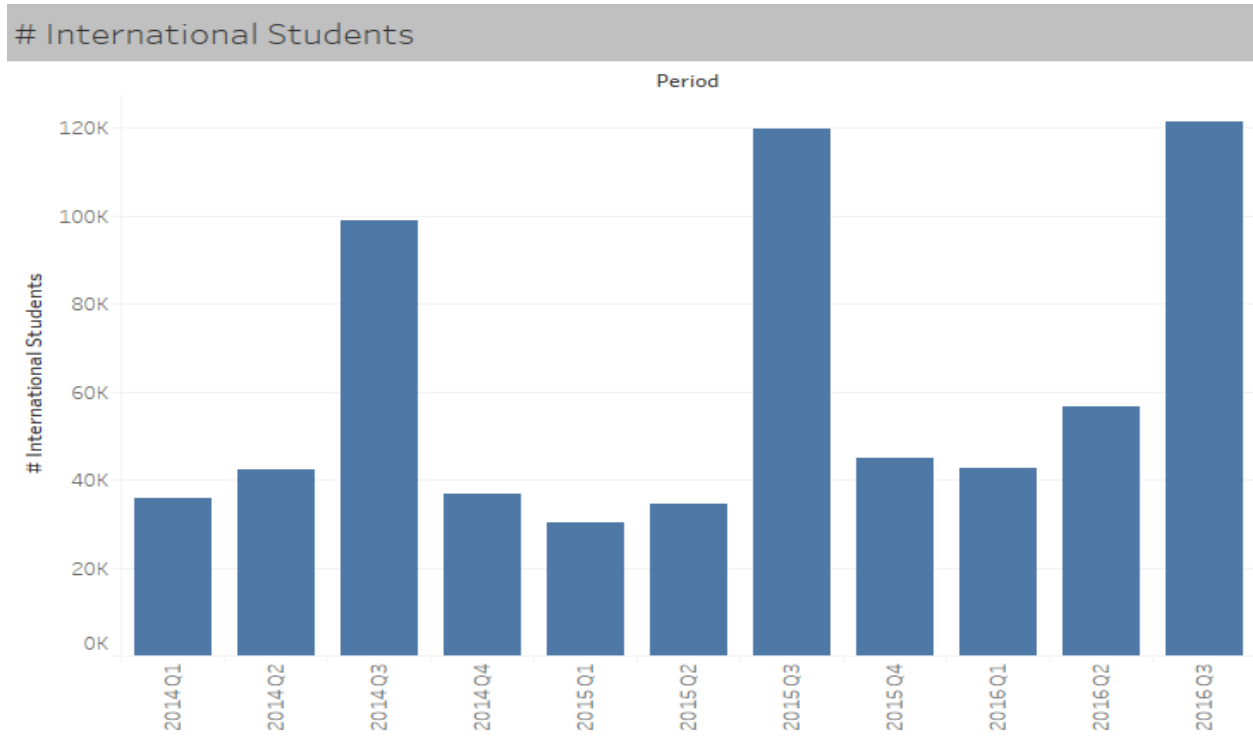


Chapter 6 – Analytics
Performing linear regression with R

This graph was omitted.

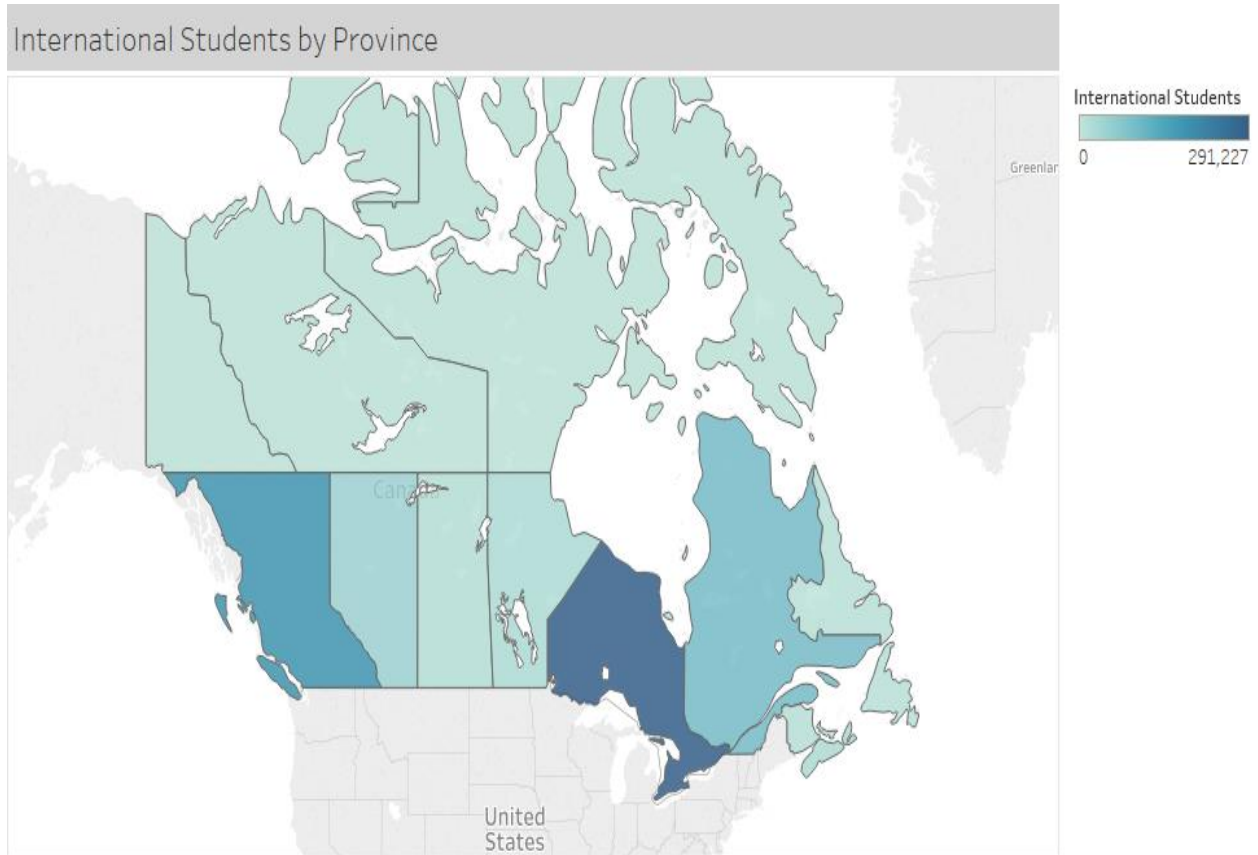
Chapter 7 – Data Preparation

Using the Data Interpreter and Pivot



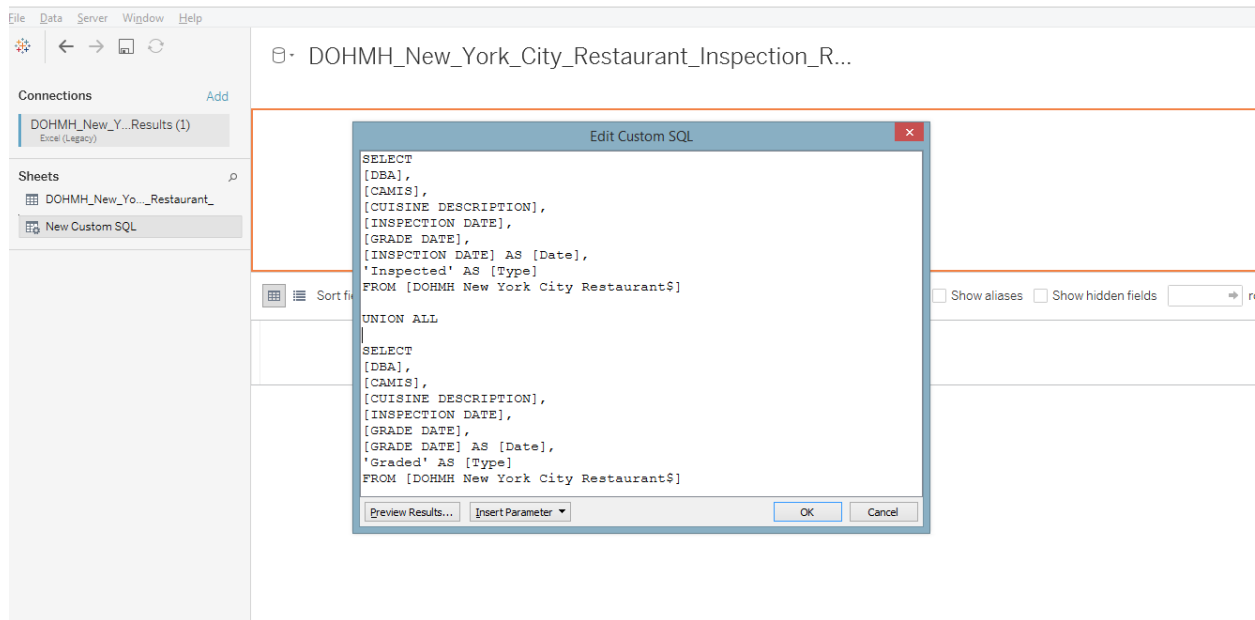
Chapter 7 – Data Preparation

Using the Data Interpreter and Pivot



Chapter 7 – Data Preparation

Using the Legacy Jet driver



The query is not working.

Chapter 7 – Data Preparation

Using schema.ini to resolve data type issues

Fixed Width Sample

Fixed Width Sample.txt

Connection: ☒ Live ☐ Extract

Filters: 0 | [Add](#)

Sort fields: Data source order

☐ Show aliases ☐ Show hidden fields 101 rows

Row Number	Id	Name	Opened
1	20,010,801	Gee	8/1/2001
2	20,020,801	Harris	8/1/2002
3	20,010,901	Carreras	9/1/2001
4	20,020,701	Gates	7/1/2002
5	20,020,901	Harrington	9/1/2002
6	20,030,901	Carroll	9/1/2003
7	20,020,701	Gash	7/1/2002
10	20,020,901	Garza	9/1/2002

As there is some issue with .ini file the output of **Opened** column is not coming in proper format.

Chapter 7 – Data Preparation

Pivoting columns

File Data Server Window Help

Population_Projections

Connection: Live Extract Filters: 1 Edit

Population_Projections.csv

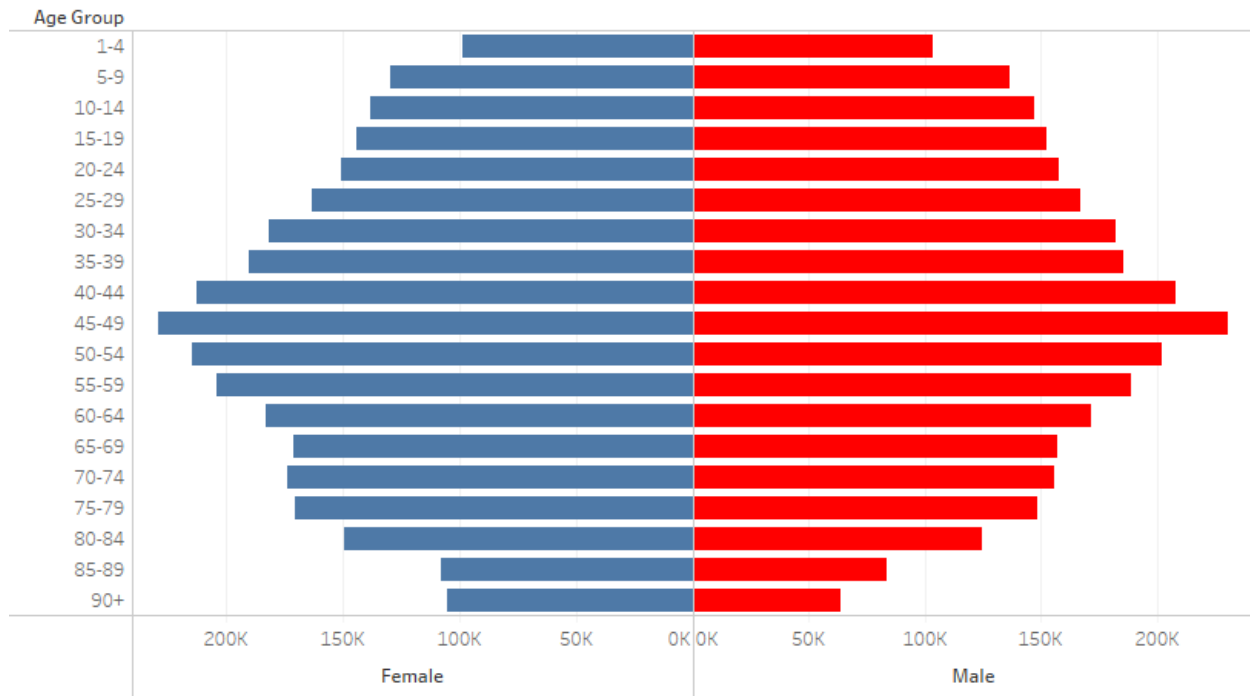
Sort fields: Data source order Show aliases Show hidden fields 1,000 rows

Age Group	Population	F1	Local Health Area	Year	Gender	Total	Male	Female
1-4	86,618	0	British Columbia	1986	M	1,495,053	86,618	null
1-4	81,194	0	British Columbia	1986	F	1,508,568	null	81,194
1-4	167,812	0	British Columbia	1986	T	3,003,621	null	null
1-4	87,216	0	British Columbia	1987	M	1,516,914	87,216	null
1-4	82,140	0	British Columbia	1987	F	1,531,737	null	82,140
1-4	169,356	0	British Columbia	1987	T	3,048,651	null	null
1-4	88,559	0	British Columbia	1988	M	1,548,973	88,559	null
1-4	83,979	0	British Columbia	1988	F	1,565,788	null	83,979

Chapter 7 – Data Preparation

Pivoting columns

BC Population 2041



Chapter 7 – Data Preparation

Using Union

The screenshot shows the Tableau Desktop interface with the 'business_licences' connection selected. The 'Files' pane on the left lists 18 CSV files from 1997 to 2013. A dialog box is open for 'business_licences.csv+', showing the 'Specific (manual)' tab with a list of files. The main view shows a preview of the data with columns: Business Name, Business Trade Name, Status, Issued Date, and Expired Date.

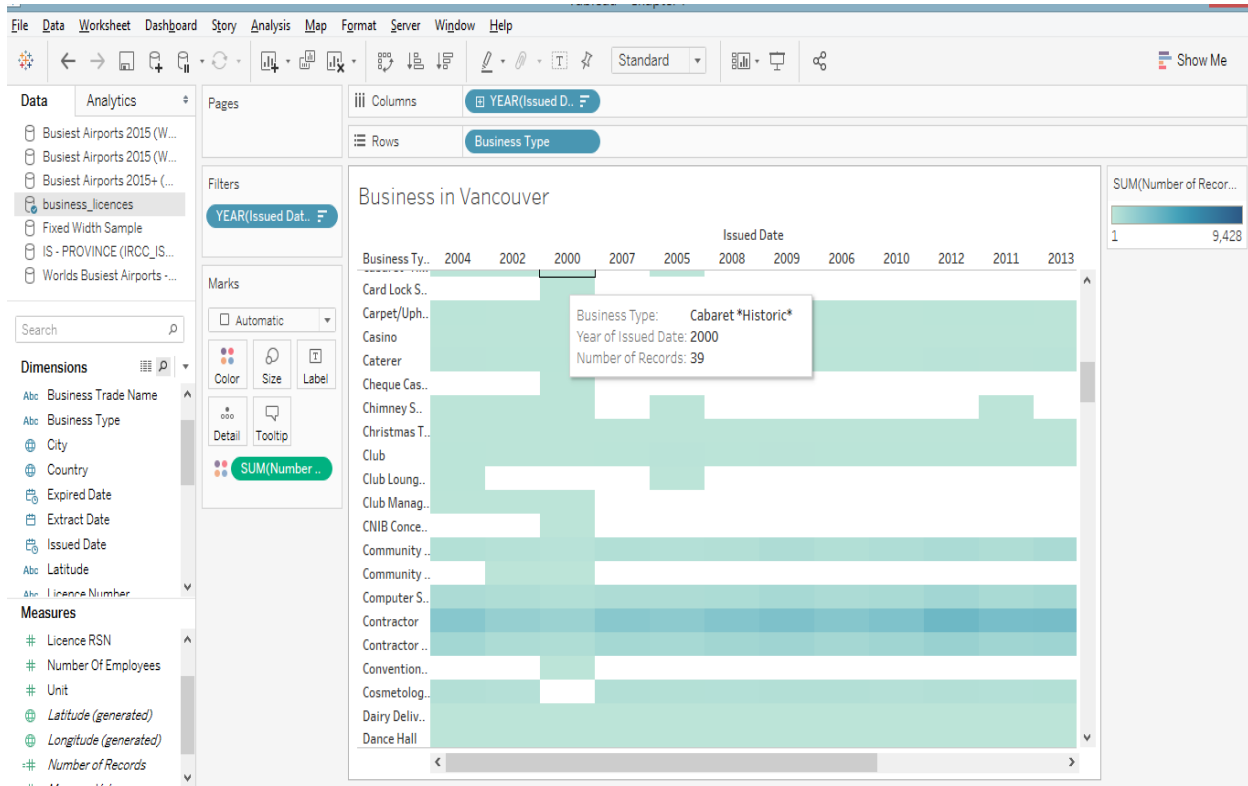
Connection: business_licences

Tables in union: 18

Business Name	Business Trade Name	Status	Issued Date	Expired Date
Aqua Libra Consulting...	null	Cancelled	null	
(Anson Chen)	null	Cancelled	11/30/2016 3:10:06 PM	12/31/201
Beaver Pond Creative ...	null	Issued	12/6/2016 9:46:36 AM	12/31/201
Aimee Claire Mergaer...	Aimee Mergaert Desi...	Issued	1/9/2017 1:58:41 PM	12/31/201
Carol Elinor Sawyer (...)	null	Issued	10/31/2016 5:29:57 PM	12/31/201
Jocelyn M Macleod (J...	null	Issued	1/5/2017 1:41:06 PM	12/31/201
(Elaine Barrick)	null	Issued	12/17/2016 1:02:49 PM	12/31/201
Katharine Michelle Di...	null	Issued	12/12/2016 4:35:48 PM	12/31/201

Chapter 7 – Data Preparation

Using Union



I have tried to generate graph using Heat Map but could not get the results like what has been mentioned in text book.

Chapter 7 – Data Preparation

Using Join

Left Outer Join

Airport	Passengers	Airport Code	Airport Name
ATL	101,489,887	ATL	Hartsfield Jackson Atlant..
CDG	65,771,288	Null	Null
DXB	78,010,265	DXB	Dubai International
HKG	68,342,785	HKG	Hong Kong International ..
HND	75,316,718	HND	Tokyo International
LAX	74,704,122	LAX	Los Angeles International
LHR	74,989,914	LHR	London Heathrow
ORD	76,942,493	ORD	Chicago O'Hare Internatio..
PEK	89,938,628	PEK	Beijing Capital Internatio..

The view is broken down by Airport, sum of Passengers, Airport Code and Airport Name.

Chapter 7 – Data Preparation

Using Join

Left outer join 1

Airport1	Passengers	Airport Cod..	Airport Name1
Null	Null	DFW	Dallas Fort Worth Interna..
ATL	101,489,887	ATL	Hartsfield Jackson Atlant..
DXB	78,010,265	DXB	Dubai International
HKG	68,342,785	HKG	Hong Kong International ..
HND	75,316,718	HND	Tokyo International
LAX	74,704,122	LAX	Los Angeles International
LHR	74,989,914	LHR	London Heathrow
ORD	76,942,493	ORD	Chicago O'Hare Internatio..
PEK	89,938,628	PEK	Beijing Capital Internatio..

Chapter 7 – Data Preparation

Using Join

Right outer join

Airport1	Passengers	Airport Cod..	Airport Name1
ATL	101,489,887	ATL	Hartsfield Jackson Atlant..
CDG	65,771,288	Null	Null
DXB	78,010,265	DXB	Dubai International
HKG	68,342,785	HKG	Hong Kong International ..
HND	75,316,718	HND	Tokyo International
LAX	74,704,122	LAX	Los Angeles International
LHR	74,989,914	LHR	London Heathrow
ORD	76,942,493	ORD	Chicago O'Hare Internatio..
PEK	89,938,628	PEK	Beijing Capital Internatio..

Chapter 7 – Data Preparation

Using Join

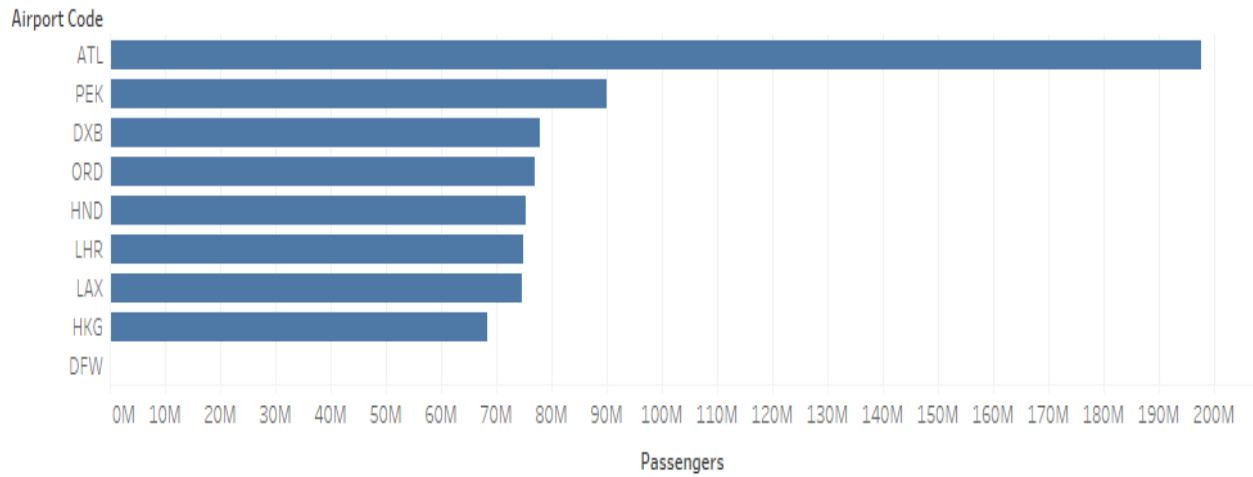
Busiest Airports



Chapter 7 – Data Preparation

Using Blend

Busiest airports



Chapter 7 – Data Preparation

Using Blend

Columns			
Rows	Airport Code	Airport	Year
Blend			
Airport Code	Airport	Year	
ATL	ATL	*	Abc
DFW	Null	Null	Abc
DXB	DXB	2015	Abc
HKG	HKG	2015	Abc
HND	HND	2015	Abc
LAX	LAX	2015	Abc
LHR	LHR	2015	Abc
ORD	ORD	2015	Abc
PEK	PEK	2015	Abc