Breweries Opened by Year - Final Project (UCSD DSE200x)

February 18, 2019

```
In [8]: # Import
        import pandas as pd
        import numpy as np
        import plotly.plotly as py
        import plotly.graph_objs as go
```

```
In [28]: df = pd.read_csv("brewery_count_transposed.csv", header=0)
         df.set_index('Year', inplace = True) # Set 'Year' to index column with True bool
         pd.set_option('display.max_columns', None) # Remove this line to truncate columns
         df
```

Out[28]:

Year	AK	AL	AR	AZ	CA	CO	CT	DC	DE	FL	GA	HI	IA	ID	IL \
1984	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	23	0	0	0	0	0	0	0	0	3	0
1988	0	0	0	0	39	3	0	0	0	3	0	0	0	3	4
1989	0	0	0	6	50	7	0	0	0	6	0	0	0	3	5
1990	0	0	0	8	67	11	0	0	0	7	0	0	0	3	6
1991	3	0	0	8	76	22	0	0	0	13	0	0	4	5	9
1992	4	0	0	7	93	27	0	0	0	17	0	0	5	8	12
1993	3	0	0	7	115	38	0	0	0	22	0	0	6	10	16
1994	3	0	3	11	127	51	0	0	0	27	3	0	6	11	22
1995	5	5	3	11	167	74	0	0	4	36	6	4	6	15	26
1996	11	8	3	17	218	92	12	3	5	62	18	6	9	24	35
1997	16	8	4	34	259	112	22	5	6	86	24	8	12	28	39
1998	14	9	5	40	273	105	25	5	8	96	26	13	13	29	44
1999	19	9	4	48	289	102	26	4	9	97	30	16	14	25	47
2000	17	7	5	45	281	102	27	4	8	92	29	15	13	24	45
2001	17	4	5	45	266	102	22	5	8	84	30	14	16	20	41
2002	19	3	4	39	270	102	17	5	8	83	25	13	15	19	43
2003	15	3	4	36	278	99	17	4	9	78	29	13	17	20	43
2004	13	5	4	31	282	99	20	5	9	74	29	13	21	19	45
2005	15	5	4	31	278	104	19	4	8	69	25	12	18	20	43
2006	14	4	4	33	293	102	18	4	9	51	22	12	19	20	45
2007	15	5	4	33	310	112	19	3	10	50	23	12	20	20	52

Year														
2008	16	5	4	33	333	117	21	3	9	61	20	11	21	24	51
2009	18	5	5	34	340	116	19	3	11	52	22	11	28	25	60
2010	20	7	5	37	358	129	21	4	11	60	26	11	27	25	62
2011	23	9	7	45	401	149	20	6	12	71	25	12	35	33	68
2012	25	15	13	55	472	185	24	5	13	89	31	15	46	39	95
2013	25	23	18	59	528	234	39	11	13	113	37	17	54	42	123
2014	28	25	23	77	654	300	50	12	15	158	48	20	60	51	164
2015	35	30	29	91	788	352	59	13	21	205	54	26	71	57	210
2016	36	37	34	110	927	386	76	13	25	264	69	23	94	67	244
2017	45	52	44	130	1,106	448	103	13	33	338	102	28	115	76	291
2018	51	55	53	146	1,236	500	124	13	38	386	121	38	125	87	338

	IN	KS	KY	LA	MA	MD	ME	MI	MN	MO	MS	MT	NC	ND	NE \
Year															
1984	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
1987	0	0	0	0	3	0	0	0	4	0	0	0	0	0	0
1988	0	0	0	0	3	0	0	3	5	0	0	0	0	0	0
1989	4	0	0	0	5	3	0	3	7	0	0	0	6	0	0
1990	4	0	0	0	5	3	0	3	7	0	0	3	8	0	0
1991	5	0	0	3	6	4	3	3	8	3	0	5	11	0	0
1992	6	0	0	3	9	5	5	4	8	4	0	7	12	0	5
1993	7	5	3	4	9	7	8	6	9	5	0	10	14	0	6
1994	9	7	3	3	17	10	12	12	13	12	0	12	20	0	6
1995	10	13	7	4	27	12	21	24	18	13	0	13	25	3	8
1996	21	14	11	8	42	22	27	36	26	14	0	16	36	3	8
1997	26	17	14	11	44	27	28	60	37	22	0	20	40	4	9
1998	25	17	15	14	48	27	33	71	35	26	0	24	50	6	8
1999	24	15	12	11	50	30	37	79	36	30	3	24	52	3	9
2000	26	10	15	12	45	25	42	77	41	32	4	25	51	3	9
2001	23	8	10	9	46	26	39	71	37	26	4	26	38	3	11
2002	23	8	10	7	43	26	38	69	37	28	4	28	38	3	10
2003	23	7	10	6	44	27	37	76	31	28	3	24	41	3	12
2004	23	10	10	9	46	29	43	78	30	28	3	22	43	4	12
2005	27	11	10	10	38	25	43	84	31	33	3	21	45	4	16
2006	25	17	10	10	40	26	43	91	35	34	0	22	46	3	16
2007	30	18	12	10	43	24	43	94	34	38	0	26	45	3	17
2008	30	17	12	10	45	24	43	96	36	38	0	31	50	3	16
2009	39	17	15	11	44	26	42	104	39	47	0	31	52	3	17
2010	43	17	14	12	48	24	44	111	42	51	3	31	61	3	16
2011	59	21	21	12	52	26	49	131	56	55	0	35	71	3	18
2012	72	21	25	12	65	40	53	160	70	60	4	41	94	7	20
2013	95	25	25	15	82	43	60	195	75	63	7	49	125	8	25
2014	116	27	38	17	98	55	71	256	113	77	10	62	155	10	35
2015	151	37	48	25	124	73	84	316	142	90	14	74	207	11	39
2016	163	47	60	34	146	88	102	379	165	116	14	79	260	15	47
2017	213	53	73	43	189	116	131	452	214	145	16	98	330	22	53

| 2018 | 234 | 64 | 86 | 47 | 230 | 141 | 165 | 510 | 239 | 168 | 19 | 108 | 387 | 26 | 60 |

Year	NH	NJ	NM	NV	NY	OH	OK	OR	PA	RI	SC	SD	TN	TX	UT	\
1984	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	
1985	0	0	0	0	0	0	0	3	4	0	0	0	0	4	0	
1986	0	0	0	0	3	0	0	5	5	0	0	0	0	4	0	
1987	0	0	0	0	4	0	0	8	6	0	0	0	0	4	0	
1988	0	0	0	0	5	3	0	13	6	0	0	0	0	5	0	
1989	0	0	0	0	6	5	0	15	8	0	0	0	0	7	0	
1990	0	0	0	0	8	6	0	21	11	0	0	0	0	8	0	
1991	0	0	3	0	13	9	0	26	12	0	0	0	0	7	3	
1992	3	0	5	0	16	12	0	30	12	0	0	0	3	8	4	
1993	4	0	8	3	20	15	4	37	12	0	0	0	5	11	4	
1994	9	5	10	3	27	20	6	48	15	3	0	0	9	27	8	
1995	14	7	12	5	44	28	8	54	27	6	11	0	13	48	13	
1996	18	20	20	10	70	40	9	73	42	5	19	5	15	63	15	
1997	19	23	26	18	84	55	9	86	56	6	21	5	21	71	17	
1998	19	27	27	20	88	68	10	88	63	5	23	5	25	65	17	
1999	19	28	26	24	81	77	10	88	74	6	22	7	23	66	20	
2000	19	24	26	22	78	87	9	82	73	8	19	7	23	59	20	
2001	17	22	23	16	83	74	6	82	81	7	19	6	23	47	16	
2002	17	20	23	17	84	64	6	81	76	7	19	7	22	42	17	
2003	16	22	20	16	86	59	6	87	78	6	21	7	22	41	15	
2004	16	21	22	17	80	55	7	92	86	6	21	6	24	40	16	
2005	14	21	22	16	82	53	8	88	78	5	19	6	19	45	15	
2006	14	21	23	16	82	57	7	95	81	5	16	7	19	47	17	
2007	15	21	21	16	77	58	6	96	94	5	17	8	22	45	15	
2008	16	20	20	17	81	66	9	108	97	5	16	7	23	47	15	
2009	17	22	21	18	84	66	10	108	96	5	15	7	23	47	18	
2010	19	24	26	20	100	75	10	120	118	5	16	8	26	59	18	
2011	21	31	30	20	123	81	10	148	146	6	17	9	31	84	18	
2012	25	29	38	23	150	99	13	180	162	9	23	12	45	107	22	
2013	35	37	48	26	193	114	17	220	183	12	30	12	51	128	24	
2014	46	49	60	34	255	151	18	244	233	14	37	15	69	170	27	
2015	63	71	71	39	329	187	21	281	278	15	51	19	88	220	29	
2016	73	96	86	44	394	236	26	304	333	17	59	21	101	266	34	
2017	88	123	110	46	471	324	43	347	411	27	84	28	120	333	39	
2018	106	146	124	50	532	377	55	386	472	33	94	35	140	387	46	

Year	VA	VT	WA	WI	WV	WY
1984	0	0	4	5	0	0
1985	0	0	4	6	0	0
1986	0	0	4	7	0	0
1987	0	0	4	10	0	0
1988	0	0	7	12	0	0
1989	0	3	8	14	0	0

```
1990     4    4    10    17    0    0
1991     5    6    13    18    0    0
1992     7    6    15    19    0    0
1993    12    7    21    23    0    0
1994     9   10    28    29    3    0
1995    12   12    48    35    0    8
1996    17   20    79    50    4   10
1997    23   24   109    57    4   14
1998    27   27   115    65    5   15
1999    29   24   118    77    5   13
2000    31   23   113    91    6   13
2001    29   19    94    82    4   11
2002    30   25    94    90    5   11
2003    30   25    91    90    5   11
2004    31   26    93    97    4   13
2005    34   24   100    98    4   14
2006    35   24   108   103    6   14
2007    35   22   110   105    6   14
2008    43   24   121   110    6   14
2009    42   27   138   108    8   13
2010    44   32   157   119    8   16
2011    54   34   188   126    8   15
2012    67   39   230   146    8   19
2013    85   45   266   146    9   25
2014   117   51   314   168   13   28
2015   155   66   383   189   17   32
2016   209   73   424   217   24   33
2017   287   84   499   261   27   39
2018   328   90   540   303   32   44
```

In [3]: # 51 tracers because of D.C

```python
trace1 = go.Scatter(x=df['Year'], y=df['AK'], mode='lines', name='AK' )
trace2 = go.Scatter(x=df['Year'], y=df['AL'], mode='lines', name='AL' )
trace3 = go.Scatter(x=df['Year'], y=df['AR'], mode='lines', name='AR' )
trace4 = go.Scatter(x=df['Year'], y=df['AL'], mode='lines', name='AL' )
trace5 = go.Scatter(x=df['Year'], y=df['AZ'], mode='lines', name='AZ' )
trace6 = go.Scatter(x=df['Year'], y=df['CA'], mode='lines', name='CA' )
trace7 = go.Scatter(x=df['Year'], y=df['CO'], mode='lines', name='CO' )
trace8 = go.Scatter(x=df['Year'], y=df['CT'], mode='lines', name='CT' )
trace9 = go.Scatter(x=df['Year'], y=df['DC'], mode='lines', name='DC' )
trace10 = go.Scatter(x=df['Year'], y=df['DE'], mode='lines', name='DE' )

trace11 = go.Scatter(x=df['Year'], y=df['FL'], mode='lines', name='FL' )
trace12 = go.Scatter(x=df['Year'], y=df['GA'], mode='lines', name='GA' )
trace13 = go.Scatter(x=df['Year'], y=df['HI'], mode='lines', name='HI' )
trace14 = go.Scatter(x=df['Year'], y=df['IA'], mode='lines', name='IA' )
trace15 = go.Scatter(x=df['Year'], y=df['ID'], mode='lines', name='ID' )
```

```python
trace16 = go.Scatter(x=df['Year'], y=df['IL'], mode='lines', name='IL' )
trace17 = go.Scatter(x=df['Year'], y=df['IN'], mode='lines', name='IN' )
trace18 = go.Scatter(x=df['Year'], y=df['KS'], mode='lines', name='KS' )
trace19 = go.Scatter(x=df['Year'], y=df['KY'], mode='lines', name='KY' )
trace20 = go.Scatter(x=df['Year'], y=df['LA'], mode='lines', name='LA' )

trace21 = go.Scatter(x=df['Year'], y=df['MA'], mode='lines', name='MA' )
trace22 = go.Scatter(x=df['Year'], y=df['MD'], mode='lines', name='MD' )
trace23 = go.Scatter(x=df['Year'], y=df['ME'], mode='lines', name='ME' )
trace24 = go.Scatter(x=df['Year'], y=df['MI'], mode='lines', name='MI' )
trace25 = go.Scatter(x=df['Year'], y=df['MN'], mode='lines', name='MN' )
trace26 = go.Scatter(x=df['Year'], y=df['MO'], mode='lines', name='MO' )
trace27 = go.Scatter(x=df['Year'], y=df['MS'], mode='lines', name='MS' )
trace28 = go.Scatter(x=df['Year'], y=df['MT'], mode='lines', name='MT' )
trace29 = go.Scatter(x=df['Year'], y=df['NC'], mode='lines', name='NC' )
trace30 = go.Scatter(x=df['Year'], y=df['ND'], mode='lines', name='ND' )

trace31 = go.Scatter(x=df['Year'], y=df['NE'], mode='lines', name='NE' )
trace32 = go.Scatter(x=df['Year'], y=df['NH'], mode='lines', name='NH' )
trace33 = go.Scatter(x=df['Year'], y=df['NJ'], mode='lines', name='NJ' )
trace34 = go.Scatter(x=df['Year'], y=df['NM'], mode='lines', name='NM' )
trace35 = go.Scatter(x=df['Year'], y=df['NV'], mode='lines', name='NV' )
trace36 = go.Scatter(x=df['Year'], y=df['NY'], mode='lines', name='NY' )
trace37 = go.Scatter(x=df['Year'], y=df['OH'], mode='lines', name='OH' )
trace38 = go.Scatter(x=df['Year'], y=df['OK'], mode='lines', name='OK' )
trace39 = go.Scatter(x=df['Year'], y=df['OR'], mode='lines', name='OR' )
trace40 = go.Scatter(x=df['Year'], y=df['PA'], mode='lines', name='PA' )

trace41 = go.Scatter(x=df['Year'], y=df['RI'], mode='lines', name='RI' )
trace42 = go.Scatter(x=df['Year'], y=df['SC'], mode='lines', name='SC' )
trace43 = go.Scatter(x=df['Year'], y=df['SD'], mode='lines', name='SD' )
trace44 = go.Scatter(x=df['Year'], y=df['TN'], mode='lines', name='TN' )
trace45 = go.Scatter(x=df['Year'], y=df['TX'], mode='lines', name='TX' )
trace46 = go.Scatter(x=df['Year'], y=df['UT'], mode='lines', name='UT' )
trace47 = go.Scatter(x=df['Year'], y=df['VA'], mode='lines', name='VA' )
trace48 = go.Scatter(x=df['Year'], y=df['VT'], mode='lines', name='VT' )
trace49 = go.Scatter(x=df['Year'], y=df['WA'], mode='lines', name='WA' )
trace50 = go.Scatter(x=df['Year'], y=df['WV'], mode='lines', name='WV' )

trace51 = go.Scatter(x=df['Year'], y=df['WY'], mode='lines', name='WY' )




layout = go.Layout(title='Breweries Opened by Year',
                   plot_bgcolor='rgb(230, 230,230)',
                       xaxis=dict(
```

```
            title='Years',
            titlefont=dict(
                #family='Courier New, monospace',
                size=18,
                #color='#7f7f7f'
            )
        ),
        yaxis=dict(
            title='Breweries Opened',
            titlefont=dict(
                #family='Courier New, monospace',
                size=18,
                #color='#000000'
            )))


    data = [trace1, trace2, trace3, trace4, trace5, trace6, trace7, trace8, trace9, trace10
    fig = go.Figure(data, layout=layout)

    # Plot data in the notebook
    py.iplot(fig, filename='simple-plot-from-csv')

Out[3]: <plotly.tools.PlotlyDisplay object>
```

0.0.1 View Online:

https://nbviewer.jupyter.org/github/rshaver/beer_final_ds_ucsd/blob/master/Brewery%20by%20Year%20-
%20Final%20Project%20(UCSD%20DSE200x).ipynb