Date 07-07-2021

Heatmaps Exercise

In [1]:
```
import pandas as pd
import plotly.offline as pyo
import plotly.graph_objs as go
```

In [2]:
```
flights_data_csv = pd.read_csv("flights.csv")
flights_data_csv
```

Out[2]:

	year	month	passengers
0	1949	January	112
1	1949	February	118
2	1949	March	132
3	1949	April	129
4	1949	May	121
...	...	...	...
139	1960	August	606
140	1960	September	508
141	1960	October	461
142	1960	November	390
143	1960	December	432

144 rows × 3 columns

In [3]:
```
flights_data_csv.info()
```

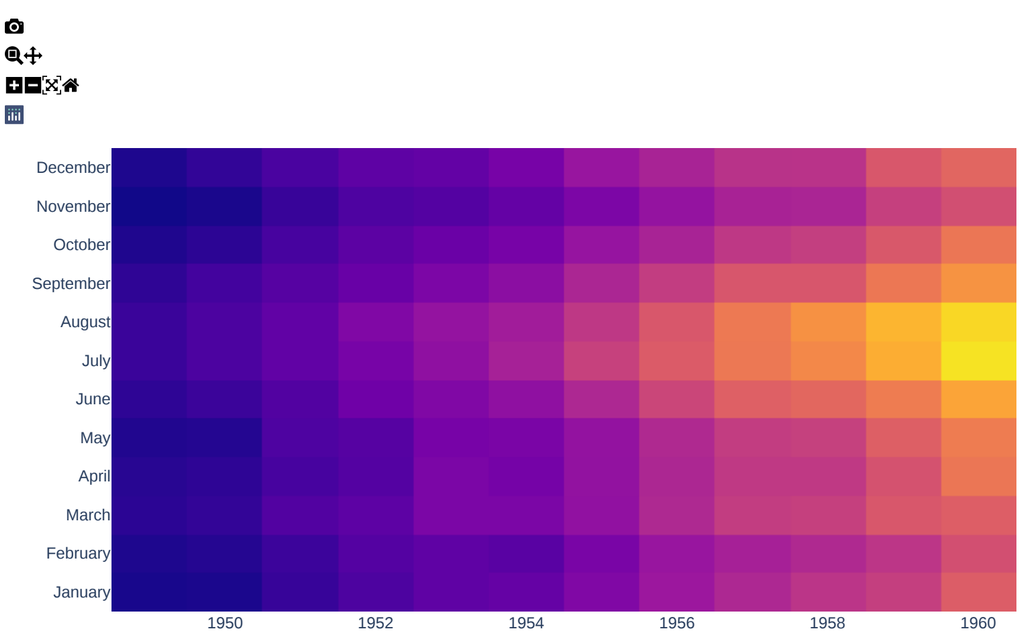
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 144 entries, 0 to 143
Data columns (total 3 columns):
 #   Column      Non-Null Count  Dtype 
---  ------      --------------  ----- 
 0   year        144 non-null    int64 
 1   month       144 non-null    object
 2   passengers  144 non-null    int64 
dtypes: int64(2), object(1)
memory usage: 3.5+ KB
```

In [4]:
```
data = [go.Heatmap(x = flights_data_csv["year"],
                   y = flights_data_csv["month"],
                   z = flights_data_csv["passengers"].values.tolist(),
                   colorbar = dict(title="Passengers traveled <br>by Flights"),
                   zmin = 100,
                   zmax = 650,
                   hovertemplate='Year: %{x}<br>Month: %{y}<br>Passengers: %{z}',
                   name='Passengers<br>Traveled<br>by Flights<br>Data')]
```

In [5]:
```
layout = go.Layout(title = "Exercise of HeatMaps <br>For Showing Flights details", title_x = 0.5)
```

In [6]:
```
fig = go.Figure(data, layout)
```

In [7]:
```
fig.show()
```



In [8]:
```
pyo.plot(fig, filename = "tutorial_23 (Heatmaps Exercise){Graph}.html")
```

Out[8]:
```
'tutorial_23 (Heatmaps Exercise){Graph}.html'
```

Instructor Solution is Down Given

In [9]:
```
#######
# Objective: Using the "flights" dataset available
# from the data folder as flights.csv
# create a heatmap with the following parameters:
# x-axis="year"
# y-axis="month"
# z-axis(color)="passengers"
######

# Perform imports here:
import plotly.offline as pyo
import plotly.graph_objs as go
import pandas as pd
# Create a DataFrame from  "flights" data
df = pd.read_csv('flights.csv')

# Define a data variable
data = [go.Heatmap(
    x=df['year'],
    y=df['month'],
    z=df['passengers']
)]

# Define the layout
layout = go.Layout(
    title='Flights'
)
# Create a fig from data and layout, and plot the fig
fig = go.Figure(data=data, layout=layout)
pyo.iplot(fig)

#######
# Excellent! This shows two distinct trends - an increase in
# passengers flying over the years, and a greater number of
# passengers flying in the summer months.
######
```