OCEANAIR Business Transaction Review - Jan - June 2020

```
import pandas as pd
pd.set_option('display.max_rows', 50)
pd.set_option('display.max_columns', 150)
import matplotlib.pyplot as plt
import numpy as np
```

```
# Read in the dataset
df = pd.read_excel('data/CUSTOMER_BUSINESS_REVIEW_Jan-June.xlsx')
```

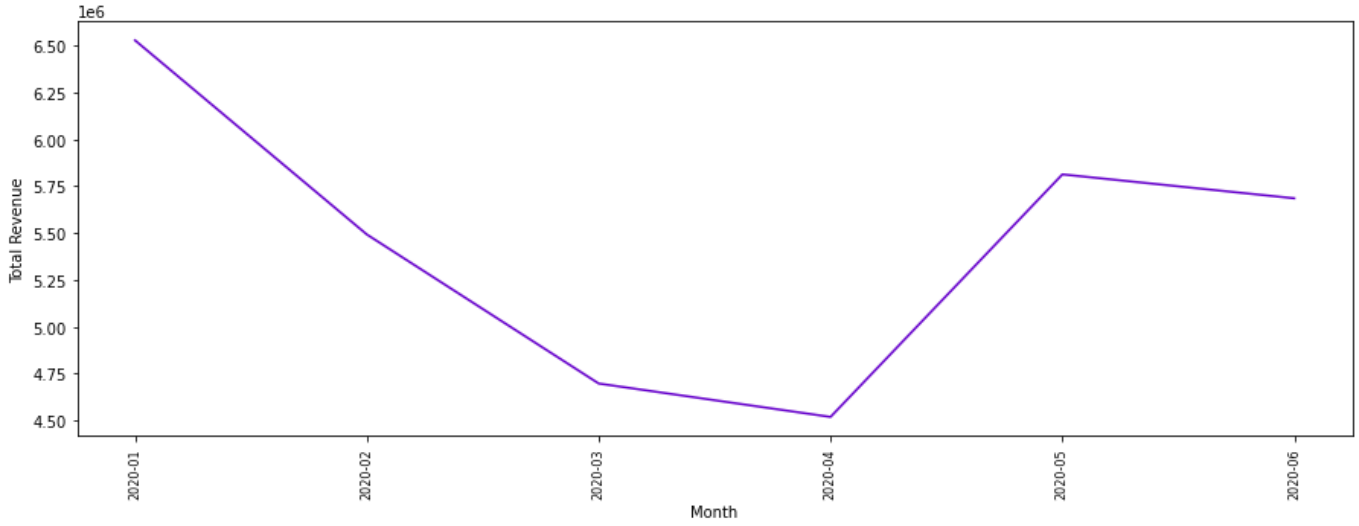
Obtaining the overall trend for January through July 2020

```
# Get the Month-Year from Report Date
df['Month_Year'] = df['REPORT DATE'].apply(lambda x: x.strftime('%Y-%m'))
```

```
results = df.groupby('Month_Year').sum()
months = [month for month, df in df.groupby('Month_Year')]

plt.figure(figsize=(15, 5))
plt.plot(months, results['REVENUE'], color='#6600CC')
plt.xticks(months, rotation='vertical', size=8)
plt.ylabel('Total Revenue')
plt.xlabel('Month')

plt.show()
```



Obtaining the Month-over-Month, Quarter-over-Quarter and Year-over-Year

Month over Month

```
mom_df = pd.DataFrame(results['REVENUE'])
```

```
mom_df['Last_Month'] = np.roll(mom_df['REVENUE'], 1)
mom_df = mom_df.drop(mom_df.index[0])
mom_df
```

```
.dataframe tbody tr th {
    vertical-align: top;
}

.dataframe thead th {
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}
```

	REVENUE	Last_Month
Month_Year		
2020-02	5492443.45	6528101.93
2020-03	4697360.13	5492443.45
2020-04	4519118.84	4697360.13
2020-05	5812959.86	4519118.84
2020-06	5685406.47	5812959.86

Add the Growth to the Month over Month Dataframe

```
# calculating the growth
mom_df['Growth'] = (mom_df['REVENUE'] / mom_df['Last_Month']) - 1
mom_df
```

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	REVENUE	Last_Month	Growth
Month_Year			
2020-02	5492443.45	6528101.93	-0.158646
2020-03	4697360.13	5492443.45	-0.144759
2020-04	4519118.84	4697360.13	-0.037945
2020-05	5812959.86	4519118.84	0.286304
2020-06	5685406.47	5812959.86	-0.021943

Plotting the Month-over-Month Growth

```
results = mom_df.drop(columns=['REVENUE', 'Last_Month'])
results['Months'] = results.index
results.reset_index(drop=True, inplace=True)
results
```

```
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    text-align: right;
}
```

	Growth	Months
0	-0.158646	2020-02
1	-0.144759	2020-03
2	-0.037945	2020-04
3	0.286304	2020-05
4	-0.021943	2020-06

```
plt.figure(figsize=(15, 5))
plt.bar(results['Months'], results['Growth'] * 100, color='#6600CC')
plt.xticks(results['Months'], rotation='vertical', size=8)
plt.ylabel('% Growth')
```

```
plt.xlabel('Month')
plt.title("\n Month-over-Month Growth Over Time \n", size=25)
#plt.grid()
plt.show()
```