# Exploratory_Data_Analysis

February 15, 2019

Import Library

```
In [1]: import pandas as pd
        import numpy as np
        import seaborn as sb
        sb.set(style="darkgrid")
        import matplotlib.pyplot as plt
```

Loading Numpy Array

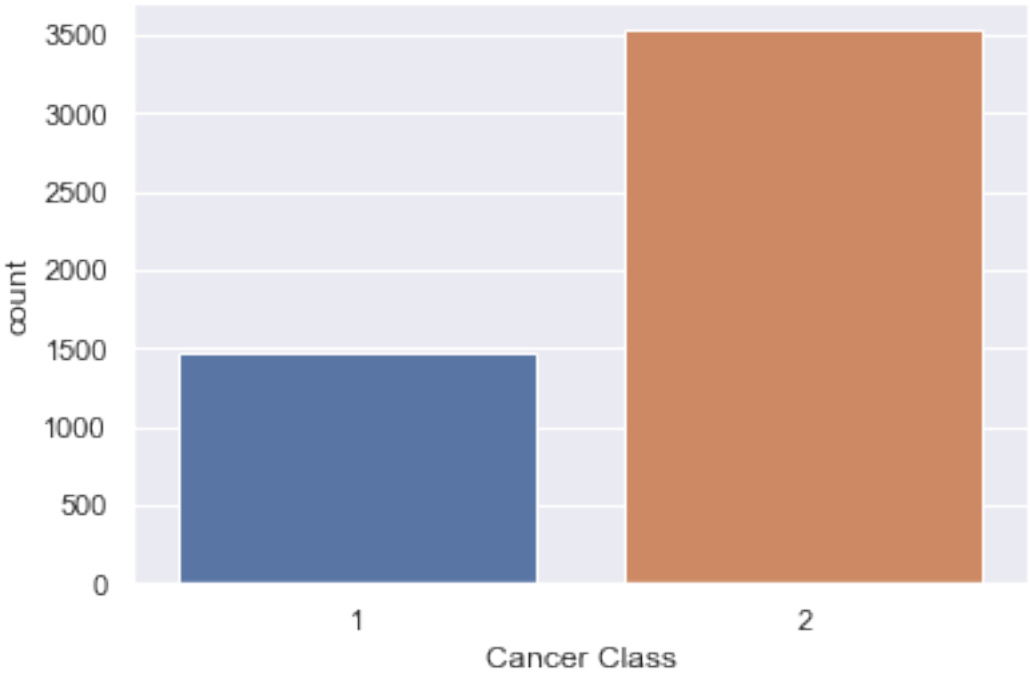
```
In [2]: # Train Arrays
        data_cancerclass_train=np.load("train/data_cancerclass_train.npy")
        data_cancertype_train=np.load("train/data_cancertype_train.npy")
        data_mag_train=np.load("train/data_mag_train.npy")
        # Test Arrays
        data_cancerclass_test=np.load("test/data_cancerclass_test.npy")
        data_cancertype_test=np.load("test/data_cancertype_test.npy")
        data_mag_test=np.load("test/data_mag_test.npy")
```

## 1 Train Arrays Visualization

```
In [3]: train_df=pd.DataFrame({'Cancer Class':data_cancerclass_train,
                               'Cancer Type':data_cancertype_train,
                               'Magnification':data_mag_train})
```

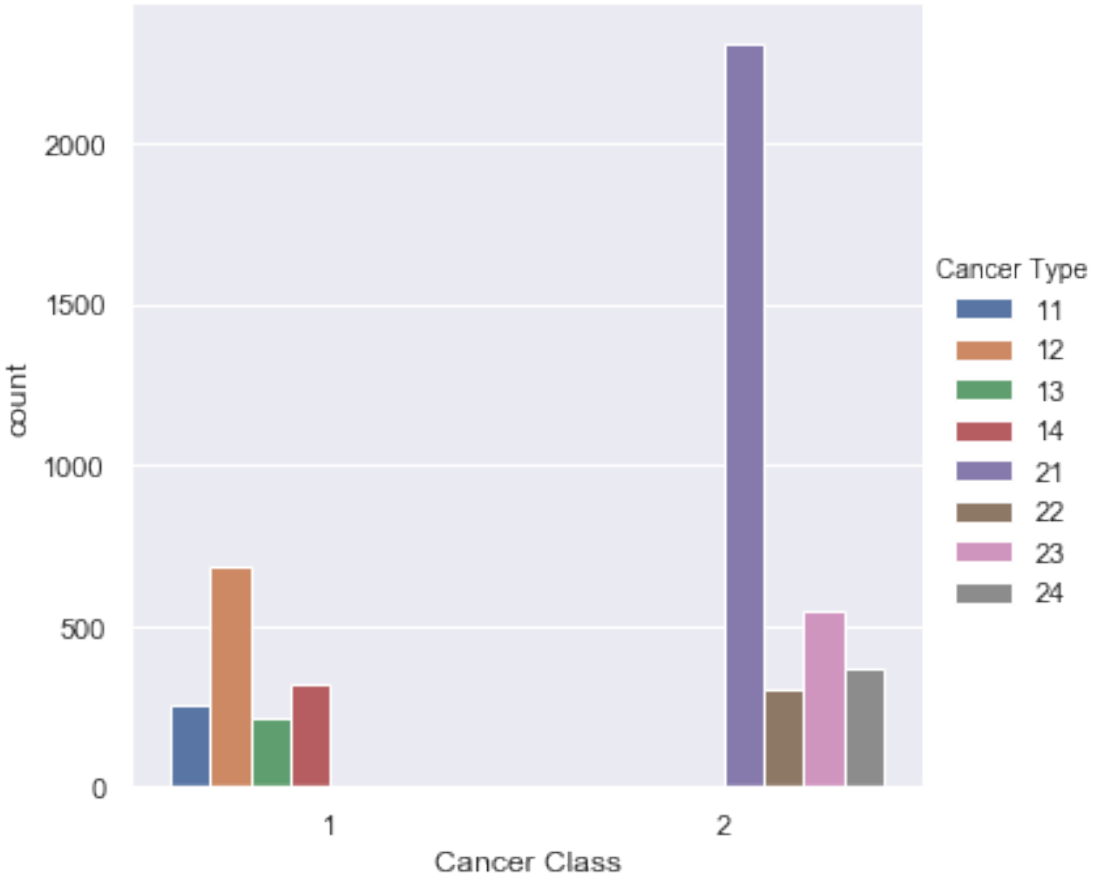
### 1.1 Cancer Class

```
In [4]: ax = sb.countplot(x="Cancer Class", data=train_df)
        fig=ax.get_figure()
        fig.savefig("Train Cancer Class.png")
```

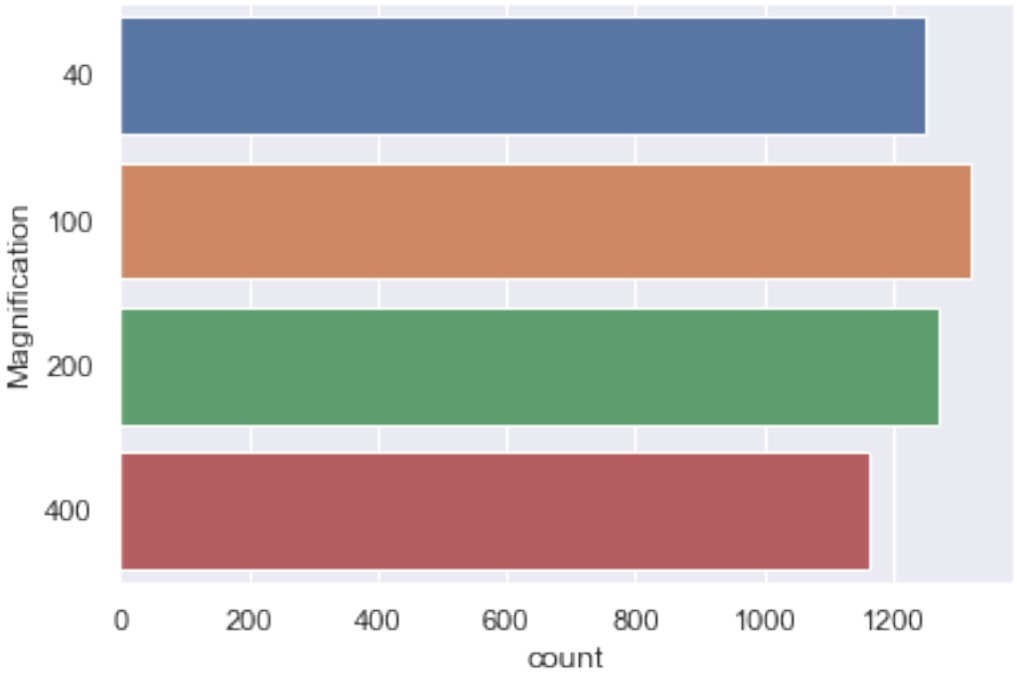



```
In [5]: ax = sb.catplot(x="Cancer Class",hue="Cancer Type", data=train_df,kind="count")

        ax.savefig("Train Cancer Class with cancer type.png")
```

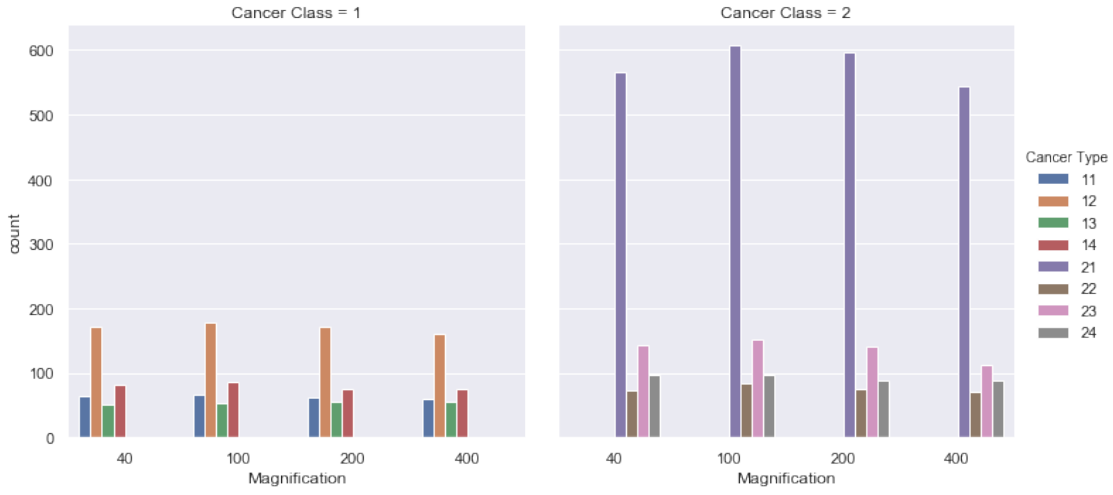



```
In [6]: ax=sb.countplot(y="Magnification", data=train_df)
        fig=ax.get_figure()
        fig.savefig("Train Magnification.png")
```




```
In [7]: ax= sb.catplot(x="Magnification", hue="Cancer Type", col="Cancer Class",
        ...                   data=train_df, kind="count");

        ax.savefig("Train Cancer Type with Magnification using Cancer Class.png")
```

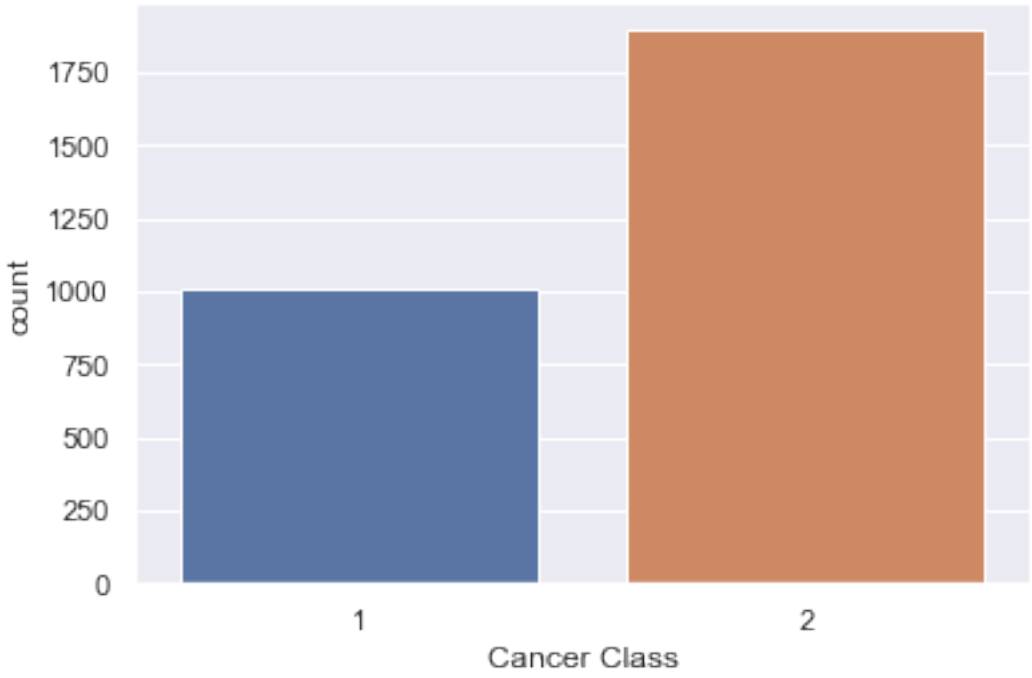


## 2 Test Arrays Visualization

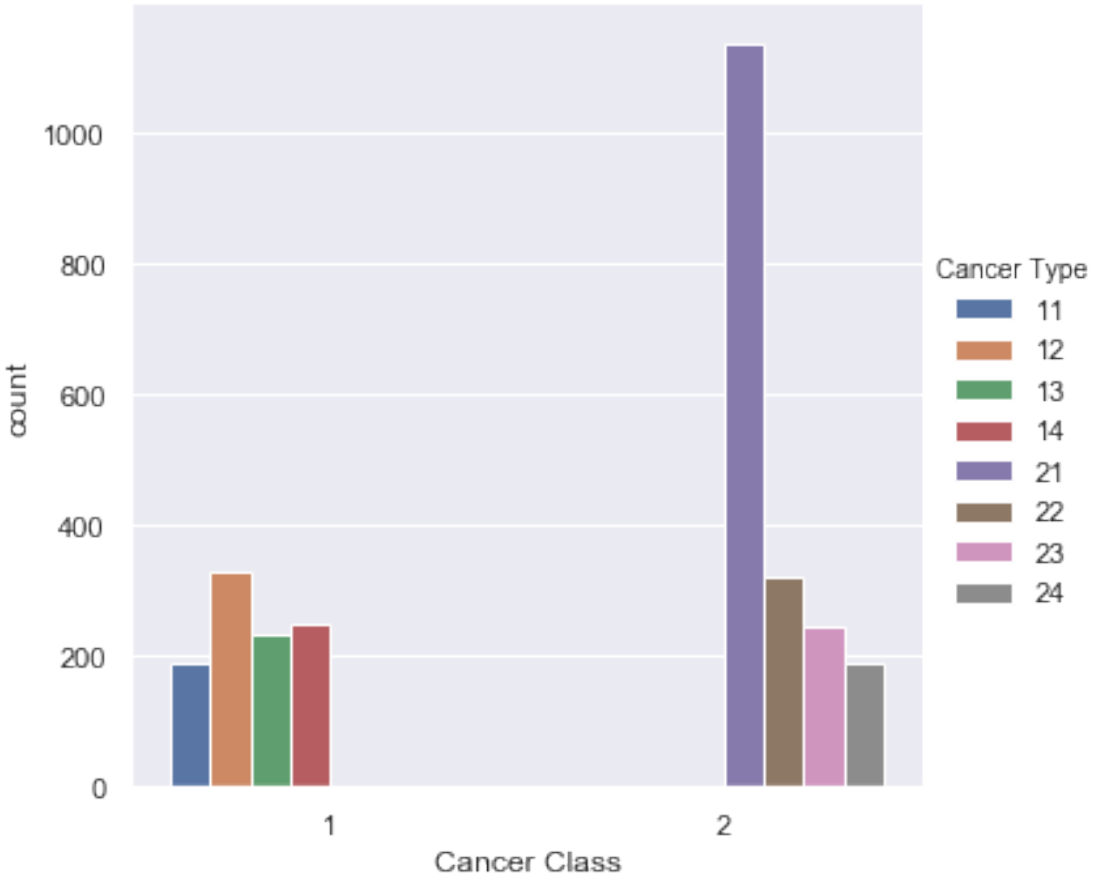
```
In [8]: test_df=pd.DataFrame({'Cancer Class':data_cancerclass_test,
                              'Cancer Type':data_cancertype_test,
                              'Magnification':data_mag_test})
```

### 2.1 Cancer Class

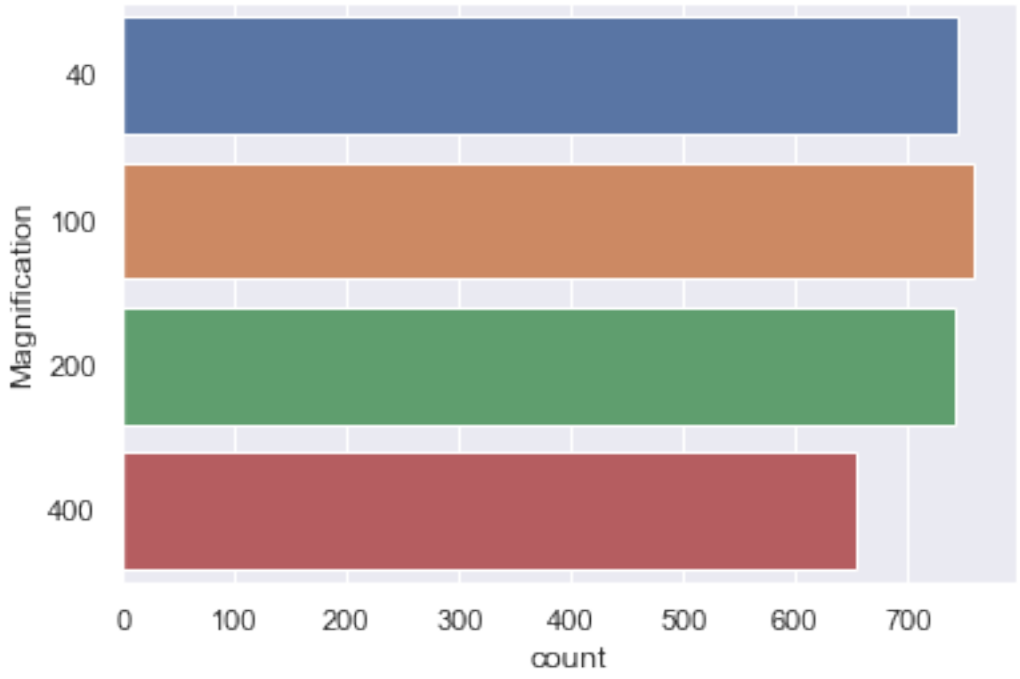
```
In [9]: ax = sb.countplot(x="Cancer Class", data=test_df)
        fig=ax.get_figure()
        fig.savefig("Test Cancer Class.png")
```




```
In [10]: ax = sb.catplot(x="Cancer Class",hue="Cancer Type", data=test_df,kind="count")
         ax.savefig("Test Cancer Class with cancer type.png")
```




```
In [11]: ax=sb.countplot(y="Magnification", data=test_df)
         fig=ax.get_figure()
         fig.savefig("Test Magnification.png")
```




In [12]:
```
ax= sb.catplot(x="Magnification", hue="Cancer Type", col="Cancer Class",
...                    data=test_df, kind="count");
ax.savefig("Test Cancer Type with Magnification using Cancer Class.png")
```