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Date: 24-01-2021

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In [3]:
```
import pandas as pd
from matplotlib import pyplot as plt
import numpy as np
# Reading CSV
df = pd.read_csv('Temperature_2020.csv')
# Station Name
name = 'MOUNT LOFTY AS'
# Filtering
df = df.loc[df['STATION_NAME'] == name]
# Removing large values
df = df[df['TMAX']!=-9999]
df = df[df['TMIN']!=-9999]
print('STATION: ' + name)
# New dataframes for individual analysis
df1 = df['TMAX']
df2 = df['TMIN']
# define output dataframe
index = ['Max','Min','Mean','Median','Mode']
columns = ['TMAX','TMIN']
res = pd.DataFrame(index=index, columns=columns)
# Calculate the values needed
res.loc['Max'] = [df1.max(),df2.max()]
res.loc['Min'] = [df1.min(),df2.min()]
res.loc['Mode'] = [df1.mode()[0],df2.mode()[0]]
res.loc['Mean'] = [df1.mean(),df2.mean()]
res.loc['Median'] = [df1.median(),df2.median()]
# Display Result
res
```

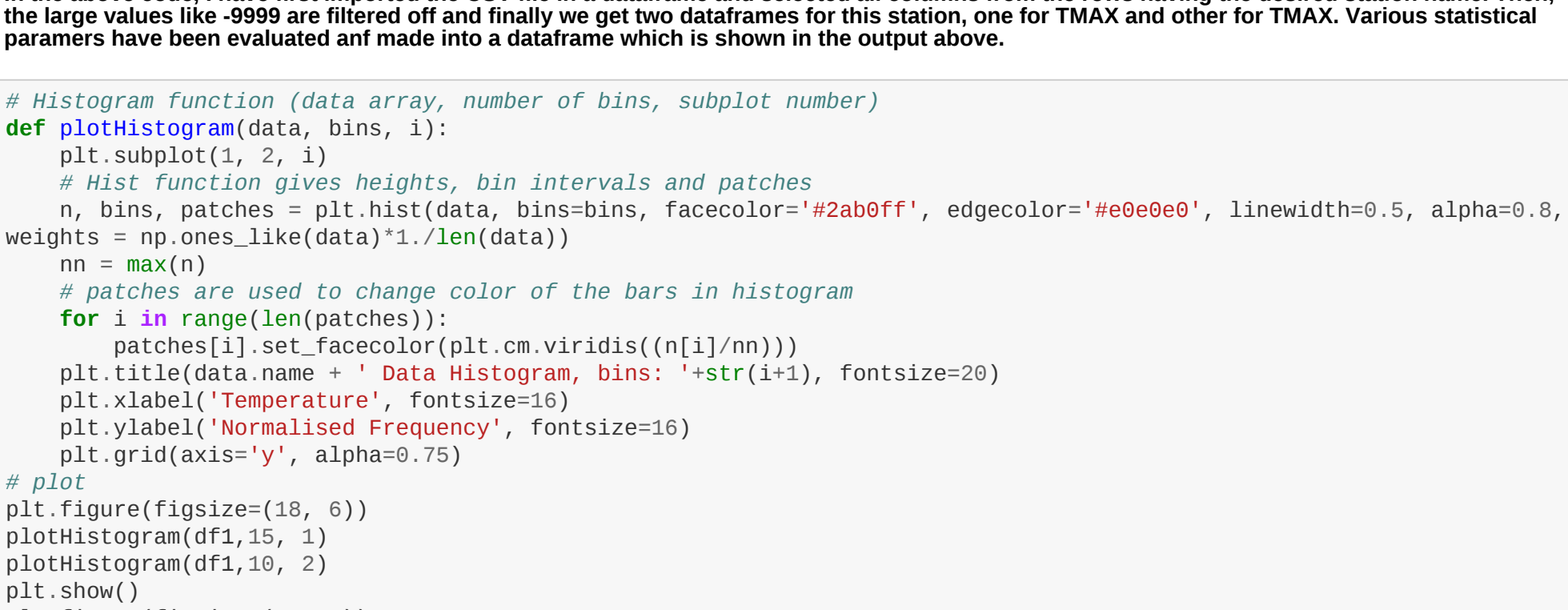
```
STATION: MOUNT LOFTY AS
```

Out[3]:

	TMAX	TMIN
Max	389	285
Min	57	7
Mean	188.695	98.276
Median	180	89
Mode	152	74

In the above code, I have first imported the CSV file in a dataframe and selected all columns from the rows having the desired station name. Then, the large values like -9999 are filtered off and finally we get two dataframes for this station, one for TMAX and other for TMAX. Various statistical paramers have been evaluated anf made into a dataframe which is shown in the output above.

In [22]:
```
# Histogram function (data array, number of bins, subplot number)
def plotHistogram(data, bins, i):
    plt.subplot(1, 2, i)
    # Hist function gives heights, bin intervals and patches
    n, bins, patches = plt.hist(data, bins=bins, facecolor='#2ab0ff', edgecolor='#e0e0e0', linewidth=0.5, alpha=0.8,
weights = np.ones_like(data)*1./len(data))
    nn = max(n)
    # patches are used to change color of the bars in histogram
    for i in range(len(patches)):
        patches[i].set_facecolor(plt.cm.viridis((n[i]/nn)))
    plt.title(data.name + ' Data Histogram, bins: '+str(i+1), fontsize=20)
    plt.xlabel('Temperature', fontsize=16)
    plt.ylabel('Normalised Frequency', fontsize=16)
    plt.grid(axis='y', alpha=0.75)
# plot
plt.figure(figsize=(18, 6))
plotHistogram(df1,15, 1)
plotHistogram(df1,10, 2)
plt.show()
plt.figure(figsize=(18, 6))
plotHistogram(df2,15, 1)
plotHistogram(df2,10, 2)
plt.show()
```



4 histograms have been plotted, 2 each for TMAX and TMIN respectively with two values of bin size, i.e. 15 and 10 respectively.

In [ ]:
```

```