In [ ]:

In [47]:
```python
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

data = pd.read_excel(r'C:\Users\ankur\OneDrive\Desktop\Stats\AAPL.xlsx')
#Displaying First 5 rows
data.head()
```

Out[47]:

	Date	Adj Close Price	Daily log returns in %
0	2012-09-06	84.674820	0.897142
1	2012-09-05	83.918564	-0.704742
2	2012-09-04	84.512062	1.452061
3	2012-08-31	83.293762	0.206167
4	2012-08-30	83.122215	-1.435740

In [48]:
```python
#Summary Statistics
print("***************Summary stats ***************")
print("Daily Log Returns in % : " + str(data['Daily log returns in %'].mean
()))
print("Daily Std Dev of Returns in % : " + str(data['Daily log returns in %'].
std()))
print("Skewness : " + str(data['Daily log returns in %'].skew()))
print("Kurtosis : " + str(data['Daily log returns in %'].kurtosis()))
```

```
***************Summary stats ***************
Daily Log Returns in % : 0.07660285231280083
Daily Std Dev of Returns in % : 3.0684992236879522
Skewness : -1.9749404966385316
Kurtosis : 51.76516488019788
```

In [49]:
```python
#Graphs and Charts
sns.set()
data.plot(y='Adj Close Price',x='Date')
data.plot(y='Daily log returns in %',x='Date')
```

Out[49]: `<matplotlib.axes._subplots.AxesSubplot at 0x2799b5a6550>`
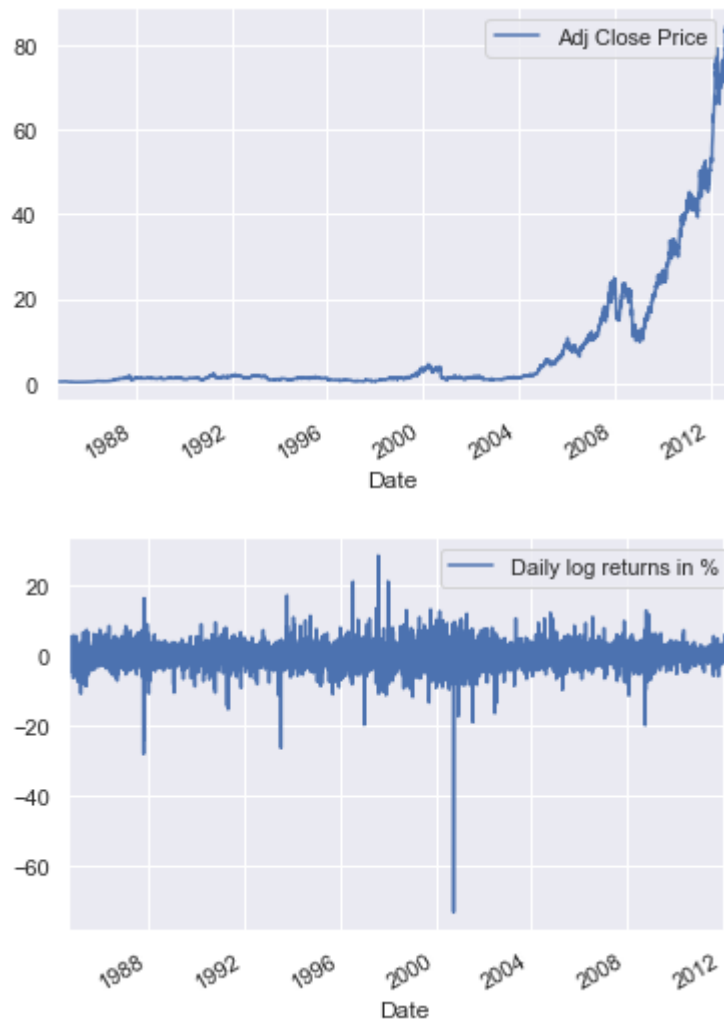
In [67]:
```python
mean = data['Daily log returns in %'].mean()
sigma = data['Daily log returns in %'].std()

# Plot the histogram.
sns.set()
plt.hist(data['Daily log returns in %'],bins=50)
plt.xlabel('Return')
plt.ylabel('Frequency')
plt.title('Histogram')
plt.show()
normal_data = norm.rvs(mean,sigma,size=300)
sns.distplot(normal_data)
plt.title('Histogram with fitted normal curve')
plt.show()
```
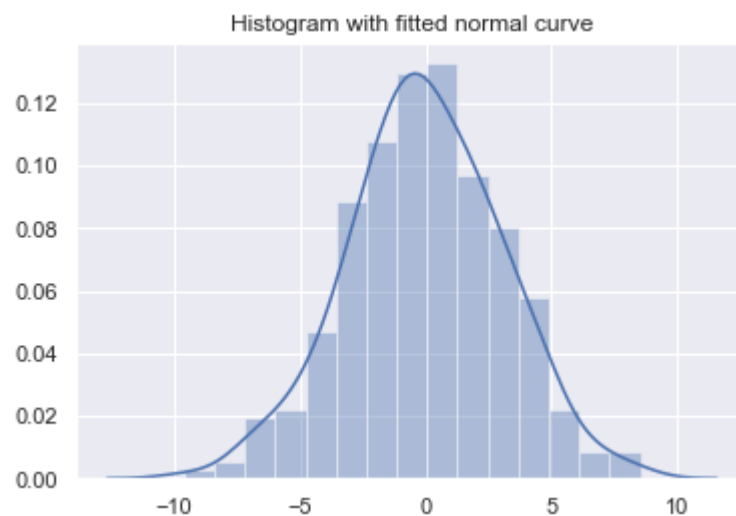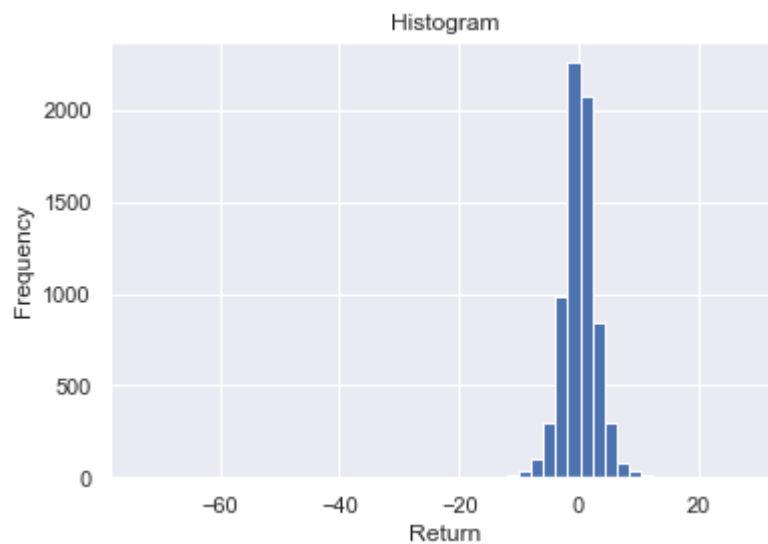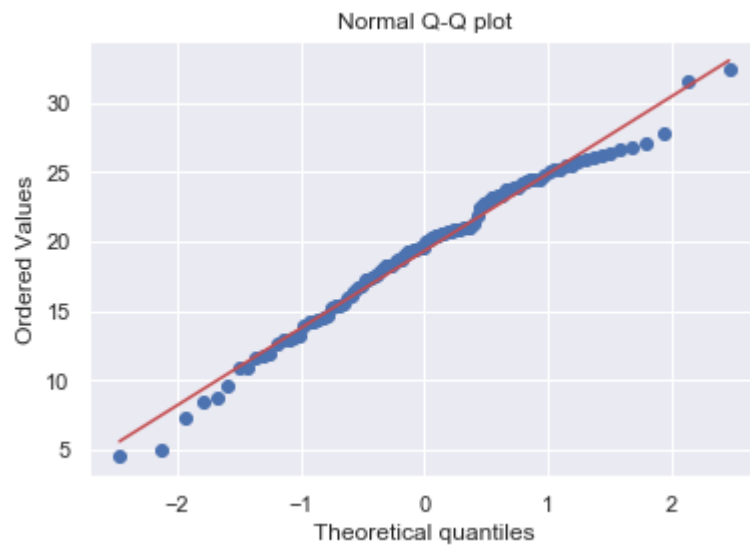
In [81]:
```python
#Normal Q-Q plot
import numpy as np
import pylab
import scipy.stats as stats

measurements = np.random.normal(loc = 20, scale = 5, size=100)
stats.probplot(measurements, dist="norm", plot=pylab)
pylab.title('Normal Q-Q plot')
pylab.show()
```


In [ ]: