

```
In [1]: import scipy.stats as stats
import statsmodels.api as sm
import numpy as np
import pandas as pd
import warnings
warnings.filterwarnings("ignore")
from PIL import ImageGrab
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [2]: cutlets = pd.read_csv('Cutlets.csv')
cutlets.head(10)
```

Out[2]:

	Unit A	Unit B
0	6.8090	6.7703
1	6.4376	7.5093
2	6.9157	6.7300
3	7.3012	6.7878
4	7.4488	7.1522
5	7.3871	6.8110
6	6.8755	7.2212
7	7.0621	6.6606
8	6.6840	7.2402
9	6.8236	7.0503

```
In [3]: cutlets.describe()
```

Out[3]:

	Unit A	Unit B
count	35.000000	35.000000
mean	7.019091	6.964297
std	0.288408	0.343401
min	6.437600	6.038000
25%	6.831500	6.753600
50%	6.943800	6.939900
75%	7.280550	7.195000
max	7.516900	7.545900

```
In [4]: cutlets.isnull().sum()
```

Out[4]:

```
Unit A    0
Unit B    0
dtype: int64
```

```
In [5]: cutlets[cutlets.duplicated()].shape
```

Out[5]:

```
(0, 2)
```

```
In [6]: cutlets[cutlets.duplicated()]
```

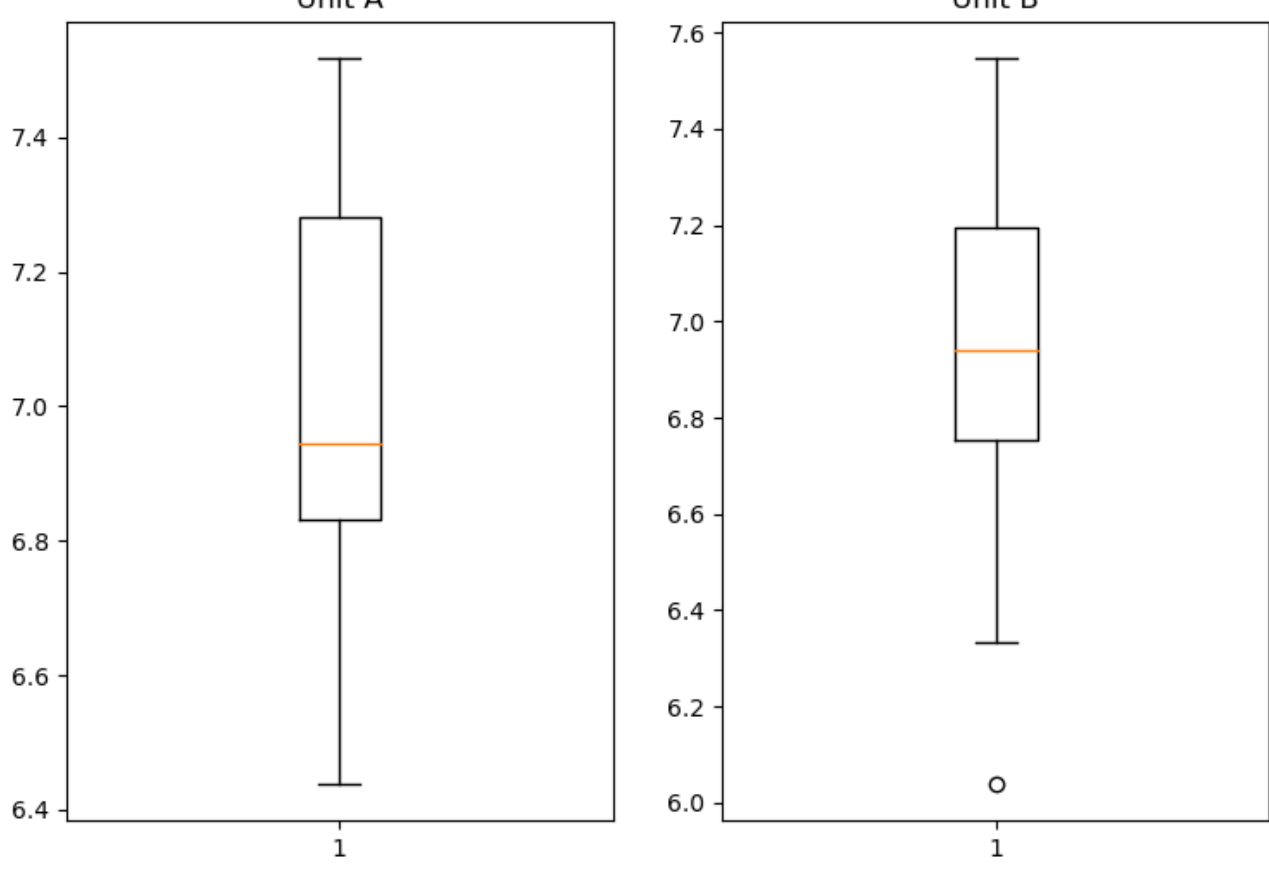
Out[6]:

	Unit A	Unit B
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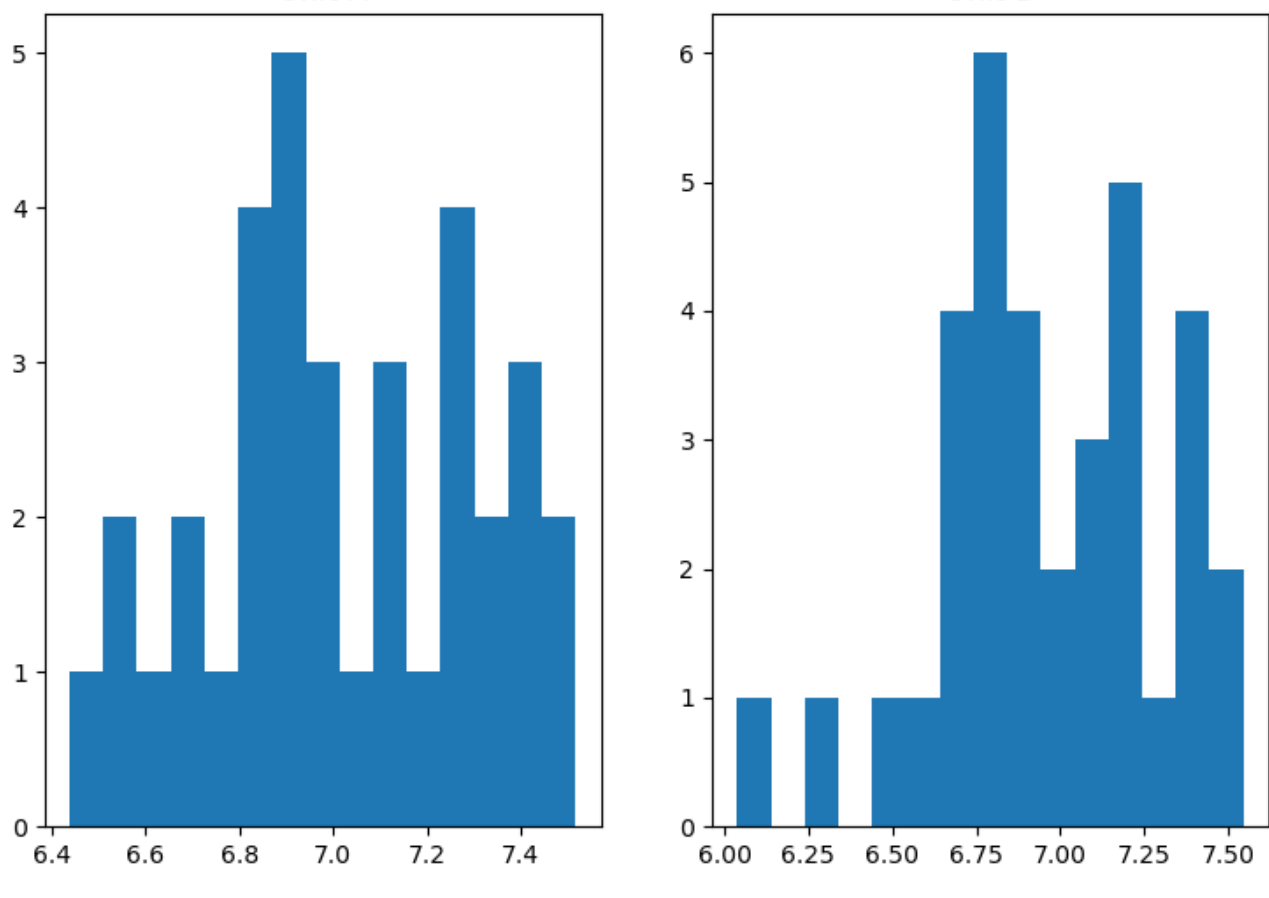
```
In [7]: cutlets.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 35 entries, 0 to 34
Data columns (total 2 columns):
 #   Column  Non-Null Count  Dtype
---  -
 0   Unit A   35 non-null      float64
 1   Unit B   35 non-null      float64
dtypes: float64(2)
memory usage: 688.0 bytes
```

```
In [8]: plt.subplots(figsize = (9,6))
plt.subplot(121)
plt.boxplot(cutlets['Unit A'])
plt.title('Unit A')
plt.subplot(122)
plt.boxplot(cutlets['Unit B'])
plt.title('Unit B')
plt.show()
```



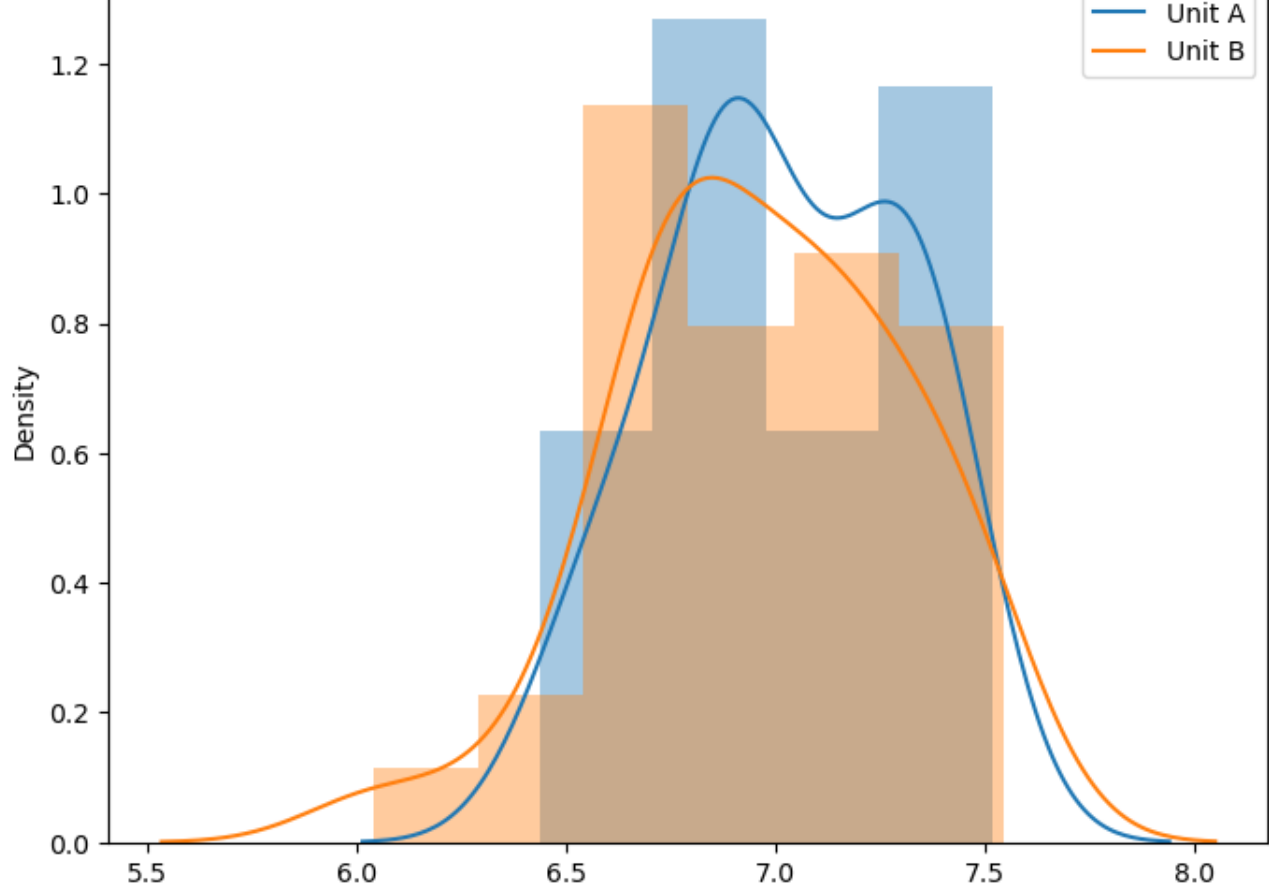
```
In [9]: plt.subplots(figsize = (9,6))
plt.subplot(121)
plt.hist(cutlets['Unit A'], bins = 15)
plt.title('Unit A')
plt.subplot(122)
plt.hist(cutlets['Unit B'], bins = 15)
plt.title('Unit B')
plt.show()
```



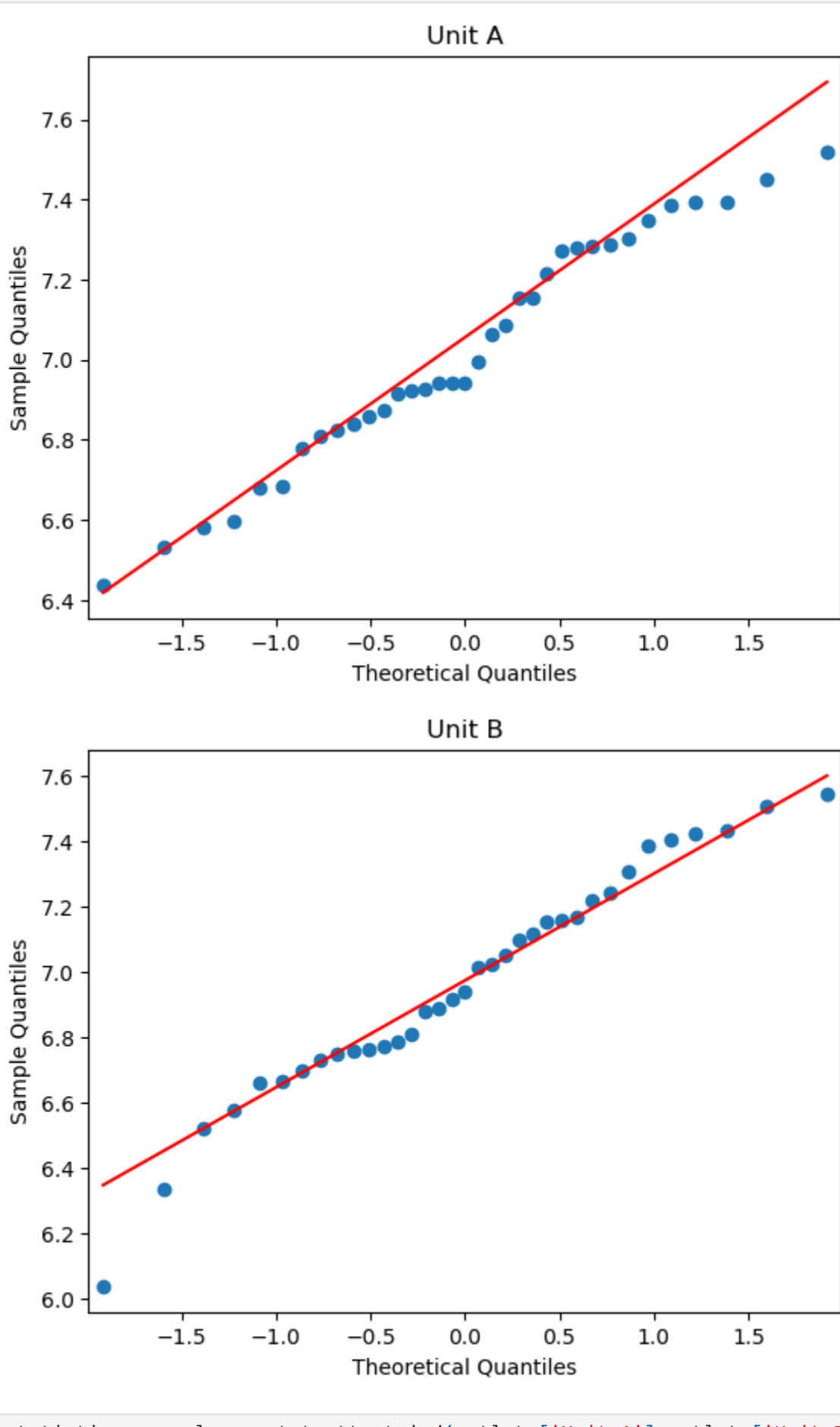
```
In [10]: plt.figure(figsize = (8,6))
labels = ['Unit A', 'Unit B']
sns.distplot(cutlets['Unit A'], kde = True)
sns.distplot(cutlets['Unit B'], hist = True)
plt.legend(labels)
```

Out[10]:

```
<matplotlib.legend.Legend at 0x281e9c8d640>
```



```
In [11]: sm.qqplot(cutlets["Unit A"], line = 'q')
plt.title('Unit A')
sm.qqplot(cutlets["Unit B"], line = 'q')
plt.title('Unit B')
plt.show()
```



```
In [12]: statistic , p_value = stats.ttest_ind(cutlets['Unit A'],cutlets['Unit B'], alterna
print('p_value=',p_value)
```

p_value= 0.4722394724599501

```
In [ ]:
```