In [1]:
```
import pandas as pd
import numpy as np
from scipy import stats
```

In [2]:
```
contract = pd.read_excel("ContractRenewal_Data.xlsx")
contract
```

Out[2]:

	Supplier A	Supplier B	Supplier C
0	6.15	7.87	7.41
1	6.22	5.21	3.61
2	6.76	7.94	7.23
3	4.29	7.36	5.53
4	7.08	6.17	3.97
...	...	...	...
115	5.85	4.53	4.27
116	5.04	8.06	6.39
117	5.68	7.14	4.60
118	4.77	4.84	6.15
119	3.57	4.55	5.28

120 rows × 3 columns

In [3]:
```
contract.head()
```

Out[3]:

	Supplier A	Supplier B	Supplier C
0	6.15	7.87	7.41
1	6.22	5.21	3.61
2	6.76	7.94	7.23
3	4.29	7.36	5.53
4	7.08	6.17	3.97

In [5]:
```
contract.shape
```

Out[5]:
```
(120, 3)
```

In [6]:
```
data1 = pd.Series(contract.iloc[:,0])
data1
```

Out[6]:
```
0      6.15
1      6.22
2      6.76
3      4.29
4      7.08
```

```
        ...
115    5.85
116    5.04
117    5.68
118    4.77
119    3.57
Name: Supplier A, Length: 120, dtype: float64
```

In [7]:
```
data2 = pd.Series(contract.iloc[:,1])
data2
```

Out[7]:
```
0      7.87
1      5.21
2      7.94
3      7.36
4      6.17
       ...
115    4.53
116    8.06
117    7.14
118    4.84
119    4.55
Name: Supplier B, Length: 120, dtype: float64
```

In [8]:
```
data3 = pd.Series(contract.iloc[:,2])
data3
```

Out[8]:
```
0      7.41
1      3.61
2      7.23
3      5.53
4      3.97
       ...
115    4.27
116    6.39
117    4.60
118    6.15
119    5.28
Name: Supplier C, Length: 120, dtype: float64
```

In [9]:
```
p_value_1 = stats.ttest_ind(data1,data2)
p_value_1
```

Out[9]:
```
Ttest_indResult(statistic=-2.1634422698825153, pvalue=0.03150296757962793)
```

In [10]:
```
p_value_2 = stats.ttest_ind(data1,data3)
p_value_2
```

Out[10]:
```
Ttest_indResult(statistic=-1.2782876664298628, pvalue=0.20239322670029566)
```

In [12]:
```
p_value_1[-2]
```

Out[12]:
```
-2.1634422698825153
```

In [13]:
```
p_value_2[-1]
```

Out[13]:
```
0.20239322670029566
```

In [15]:

```
np.corrcoef(data1 , y = data2)
```

Out[15]:
```
array([[1.        , 0.06599682],
       [0.06599682, 1.        ]])
```

In [ ]:
```

```