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

```
In [2]:   # our Data for three areas
          area1 = [6.2, 9.3, 6.8, 6.1, 6.7, 7.5]
          area2 = [7.5, 8.2, 8.5, 8.2, 7.0, 9.3]
          area3 = [5.8, 6.2, 7.0, 5.9, 6.5, 6.8]
```

```
In [3]:   #Perform One-Way ANOVA
          f_statistic, p_value = stats.f_oneway(area1, area2, area3)
```

```
In [7]:   print(f_statistic)
```

One-Way ANOVA Test Result
6.085655917116589
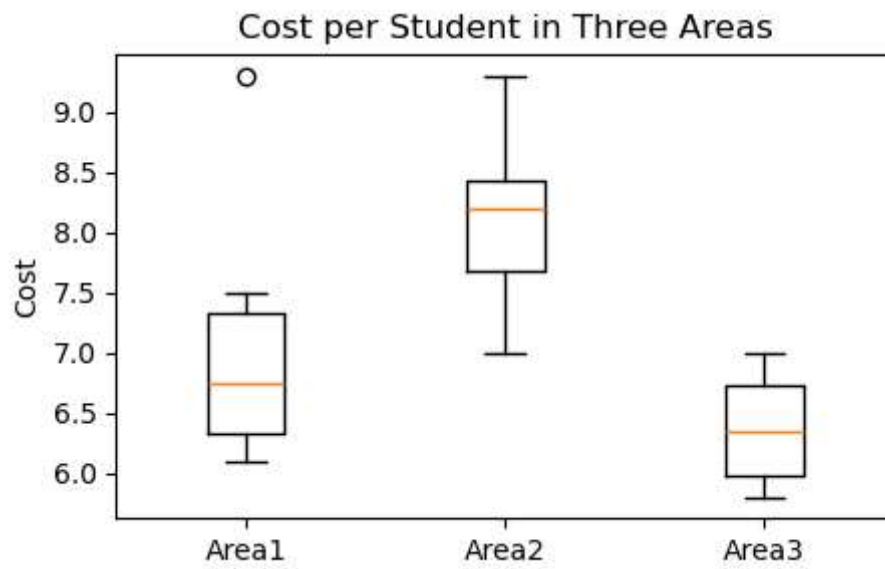
```
In [6]:   print(p_value)
```

0.011610606128645973

```
In [12]:  # my alpha value 0.05
          if p_value <0.05:
              print("Significant difference exists means reject H0")
          else:
              print("No significant difference exists")
```

Significant difference exists means reject H0

```
In [15]:  import matplotlib.pyplot as plt
          plt.figure(figsize=(5,3))
          plt.boxplot([area1, area2, area3],labels=['Area1', 'Area2', 'Area3'])
          plt.title("Cost per Student in Three Areas")
          plt.ylabel("Cost")
          plt.show()
```

```
C:\Users\Dell\AppData\Local\Temp\ipykernel_14912\325538382.py:3: MatplotlibDeprecati
onWarning: The 'labels' parameter of boxplot() has been renamed 'tick_labels' since
Matplotlib 3.9; support for the old name will be dropped in 3.11.
  plt.boxplot([area1, area2, area3],labels=['Area1', 'Area2', 'Area3'])
```

Cost per Student in Three Areas

In [ ]: