exe-4

November 2, 2025

[1]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sn
import numpy as np
```

[2]:
```
arr=np.random.randint(50,100,10)
```

[3]:
```
arr
```

[3]:
```
array([59, 66, 67, 81, 61, 73, 88, 64, 52, 66], dtype=int32)
```

[4]:
```
arr.mean()
```

[4]:
```
np.float64(67.7)
```

[5]:
```
sorted(arr)
```

[5]:
```
[np.int32(52),
 np.int32(59),
 np.int32(61),
 np.int32(64),
 np.int32(66),
 np.int32(66),
 np.int32(67),
 np.int32(73),
 np.int32(81),
 np.int32(88)]
```

[6]:
```
def out_detec(arr):
    q1,q3=np.percentile(arr,[25,75])
    qr=q3-q1
    n=q1-(1.5*qr)
    m=q3+(1.5*qr)
    return n,m
```

[7]:
```
n,m=out_detec(arr)
```

[8]:
```
print(n)
print(m)
```

```
47.125
86.125
```

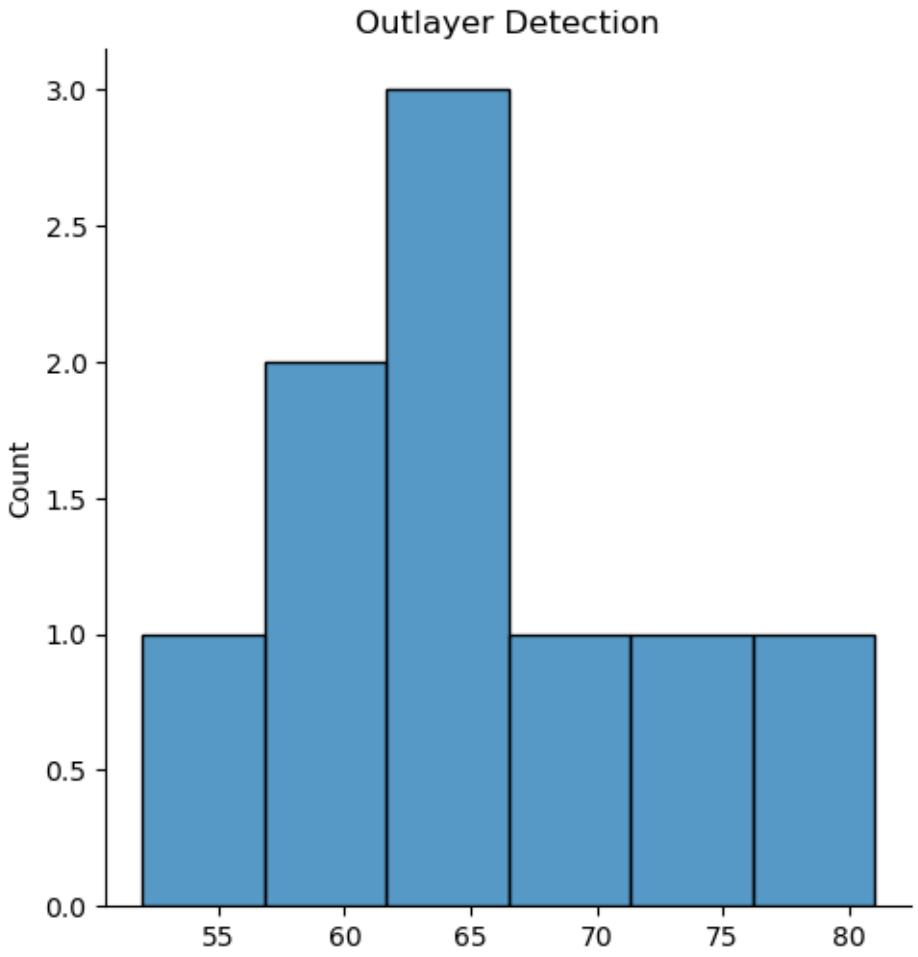
[9]:
```
arr1=arr[(arr>n) & (arr<m)]
```

[10]:
```
arr1
```

[10]:
```
array([59, 66, 67, 81, 61, 73, 64, 52, 66], dtype=int32)
```

[11]:
```
sn.displot(arr1)
plt.title("Outlayer Detection")
```

[11]:
```
Text(0.5, 1.0, 'Outlayer Detection')
```



[ ]: