Anomility Detection

In [78]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [97]:
```
def detect_anomility(data_array, k=2, threshold = 1):
    k = k
    threshold = threshold
    datapoint = []
    anomility = []
    for i in range(len(data_array)):
        mean = 0
        distances = []
        for j in range(len(data_array)):
            if i == j: continue
            dist = data_array[j] - data_array[i]
            distances.append(abs(dist))

        distances.sort()
        kmin = distances[0: k]
        for j in range(len(kmin)):
            mean += kmin[j]
        mean = mean / len(kmin)
        if mean > 1: anomility.append(data_array[i])
        else: datapoint.append(data_array[i])

    return datapoint, anomility
```

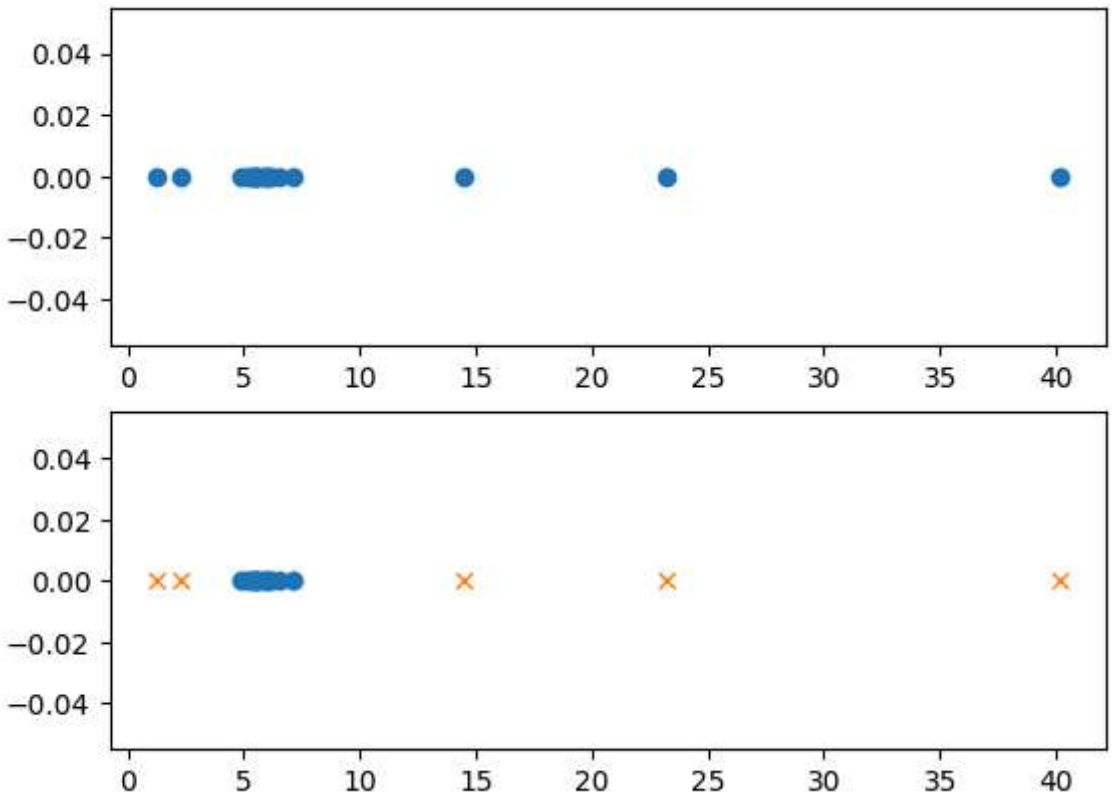
1. Example Dataset

In [90]:
```
data = pd.DataFrame({
    "name": ["Mohan", "Maria", "Sakib", "Tao", "Virat", "Khushbu", "Mitr", "Se
    "height": [1.2, 2.3, 4.9, 5.1, 5.2, 5.4, 5.5, 5.5, 5.6, 5.6, 5.8, 5.9, 6.(
})

d = list(data["height"])
```

In [91]:
```
datapoint, anomility = detect_anomility(d)
```

In [92]:
```
val = 0

plt.figure(1)
plt.subplot(211)
plt.plot(d, np.zeros_like(d) + val, 'o')  # ploting the original data
plt.subplot(212)
plt.plot(datapoint, np.zeros_like(datapoint) + val, 'o') # ploting the origin
plt.plot(anomility, np.zeros_like(anomility) + val, 'x') # plotting anomiliti
```

Out[92]:
```
[<matplotlib.lines.Line2D at 0x1be73c28ac0>]
```



2. Selected Dataset

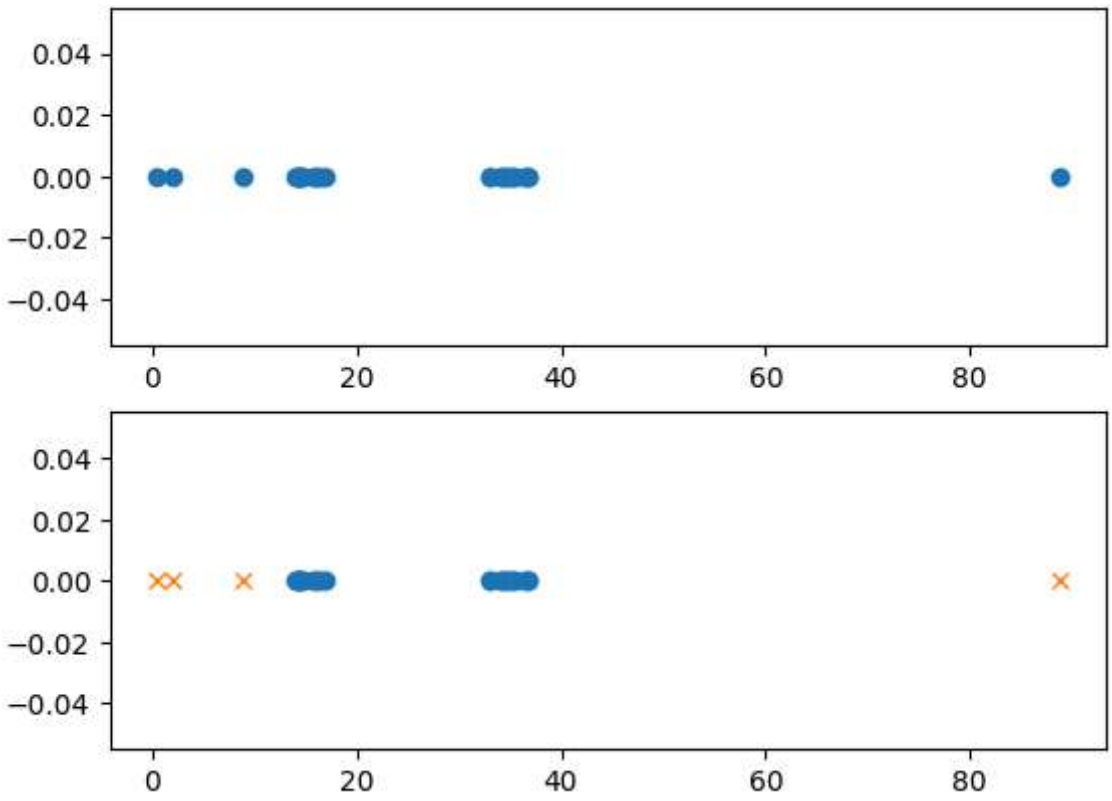
In [93]:
```
df = pd.read_csv('../Country Quater Wise Visitors Imputed.csv')
```

In [94]:
```
d2 = list(df.T[0])
name, d2 = d2[0], d2[1: ]
```

In [95]:
```
datapoint2, anomility2 = detect_anomility(d2, k=4)
```

In [96]:
```
val = 0

plt.figure(1)
plt.subplot(211)
plt.plot(d2, np.zeros_like(d2) + val, 'o')  # ploting the original data
plt.subplot(212)
plt.plot(datapoint2, np.zeros_like(datapoint2) + val, 'o') # ploting the orig
plt.plot(anomility2, np.zeros_like(anomility2) + val, 'x') # plotting anomili
```

Out[96]:
```
[<matplotlib.lines.Line2D at 0x1be73d55640>]
```



In [ ]: