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Getting Started

Basic Python syntax: variables, data types, arithmetic operations

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Task: Write a Python program to create a list of numbers, calculate the sum of the list, and find the maximum and minimum values.

Story: Hello i have recently visited a grocery store and shopped few items. I want you to implement above program requirements on my shopping items.

Create Shopping List

In [1]:
```
# Prices of purchased grocery items
orderItems = [83,90,71,88,27,36,99,65,101,176,45,20,59]
```

Total Order Value : Method 1

In [2]:
```
# Sum of Order Items : Method 1
total = 0;
for m in orderItems:
    total = total + m;

print("Total Order Price:",total)
```

```
Total Order Price: 960
```

Total Order Value : Method 2

In [3]:
```
# Sum of Order Items : Method 2
total = sum(orderItems)
print("Total Order Price:",total)
```

```
Total Order Price: 960
```

Most Expensive Item : Method 1

In [4]:
```
# Maximum: Most expensive Item : Method 1
price = 0;
for itemPrice in orderItems:
    if(itemPrice>price):
        price = itemPrice;
print("Most expensive Item: ",price)
```

```
Most expensive Item:  176
```

Most Expensive Item : Method 2

In [5]:
```
# Maximum: Most expensive Item : Method 2
maximum = max(orderItems)
print("Most expensive Item: ",price)
```

```
Most expensive Item:  176
```

Cheapest Item : Method 1

In [6]:
```
# Manimum: Cheapest Item : Method 1
price = orderItems[0];
for itemPrice in orderItems:
    if(itemPrice<price):
        price = itemPrice;
print("Cheapest Item: ",price)
```

```
Cheapest Item:  20
```

Cheapest Item : Method 2

In [7]:
```
# Manimum: Cheapest Item : Method 2
minimum = min(orderItems)
print("Cheapest Item: ",price)
```

```
Cheapest Item:  20
```

BONUS: Find outlier

In [8]:
```
#Import libraries
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

In [9]:
```
def find_outliers(data, threshold=3):
    # Calculate mean and standard deviation
    mean = np.mean(data)
    std = np.std(data)

    # Calculate Z-scores
    z_scores = [(x - mean) / std for x in data]

    # Find outliers
```

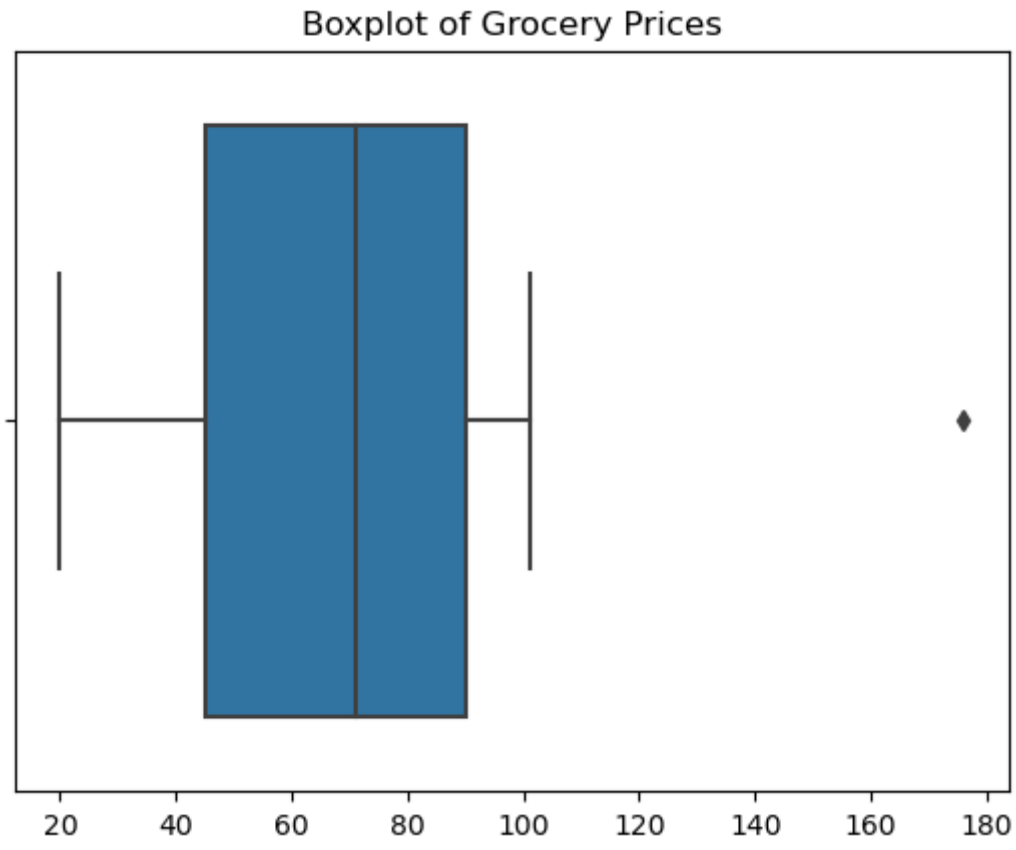
```
    outliers = [(data[i], i) for i, z in enumerate(z_scores) if abs(z) > thr

    return outliers

# Find outliers
outliers = find_outliers(orderItems)

# Plot boxplot to visualize outliers
plt.figure()
sns.boxplot(x=orderItems)
plt.title("Boxplot of Grocery Prices")

plt.show()
```



In [ ]: