Shopify Code

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In [46]:

```
import pandas as pd
import xlrd
import matplotlib.mlab as mlab
import matplotlib.pyplot as plt
```

In [47]:

```
# ingesting data
df = pd.read_excel('data/stores.xlsx')
print("Shape of data: ", df.shape)
print("Columns in the data: ",df.columns)
```

```
Shape of data:  (5000, 7)
Columns in the data:  Index(['order_id', 'shop_id', 'user_id', 'order_amount', 'total_it
ems',
       'payment_method', 'created_at'],
      dtype='object')
```

In [48]:

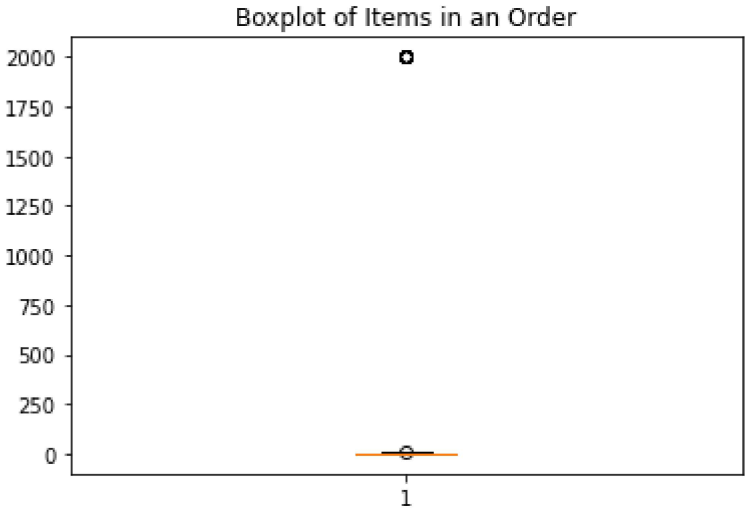
```
# Creating a reference variable to evaluate outliers
df["avg_shoe_price"] = df["order_amount"]/df["total_items"]
```

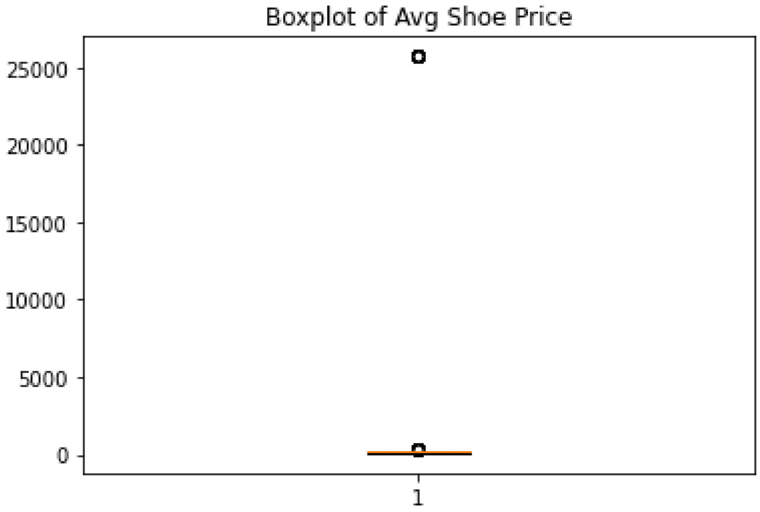
In [49]:

```
# Box plots to identify outliers
fig1, ax1 = plt.subplots()
ax1.set_title('Boxplot of Items in an Order')
ax1.boxplot(df.total_items)

fig2, ax2 = plt.subplots()
ax2.set_title('Boxplot of Avg Shoe Price')
ax2.boxplot(df.avg_shoe_price)
```

Out[49]:

```
{'whiskers': [<matplotlib.lines.Line2D at 0x12051989ee0>,
  <matplotlib.lines.Line2D at 0x12050358280>],
 'caps': [<matplotlib.lines.Line2D at 0x120503585e0>,
  <matplotlib.lines.Line2D at 0x12050358940>],
 'boxes': [<matplotlib.lines.Line2D at 0x12051989b80>],
 'medians': [<matplotlib.lines.Line2D at 0x12050358ca0>],
 'fliers': [<matplotlib.lines.Line2D at 0x1205035a040>],
 'means': []}
```





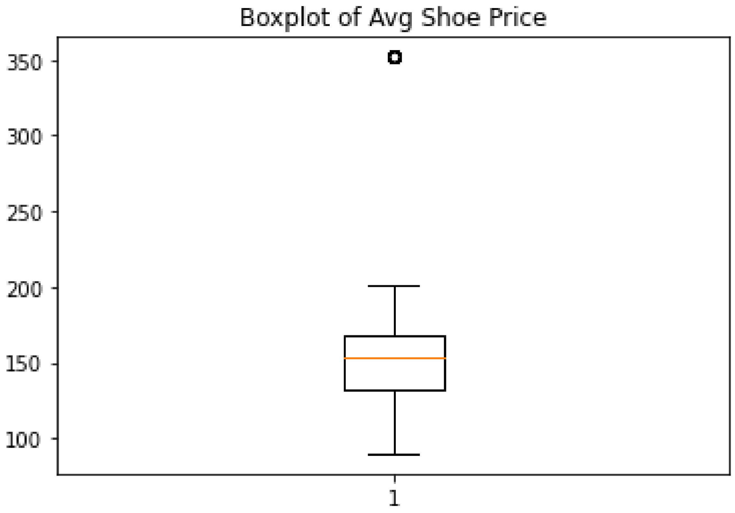
In [50]:

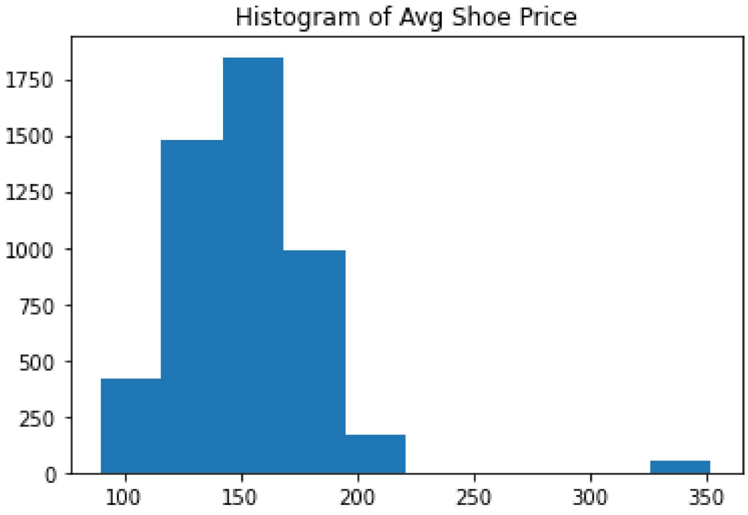
```
# Removing outliers from data
print("Number of shoes priced higher than $500: ", len(df[df["avg_shoe_price"]>500]))
df_clean_tst = df[df["avg_shoe_price"]<500]
df_clean_tst.shape

# verifying outliers
fig2, ax1 = plt.subplots()
ax1.set_title('Boxplot of Avg Shoe Price')
ax1.boxplot(df_clean_tst.avg_shoe_price)

fig3, ax1 = plt.subplots()
ax1.set_title('Histogram of Avg Shoe Price')
ax1.hist(df_clean_tst.avg_shoe_price)
```

```
Number of shoes priced higher than $500:  46
```

Out[50]:

```
(array([ 420., 1478., 1847.,  990.,  168.,    0.,    0.,    0.,    0.,
          51.]),
 array([ 90. , 116.2, 142.4, 168.6, 194.8, 221. , 247.2, 273.4, 299.6,
        325.8, 352. ]),
 <BarContainer object of 10 artists>)
```

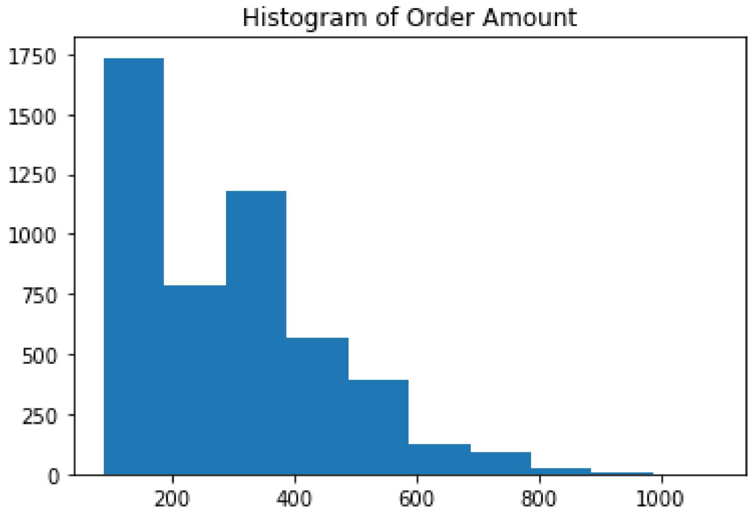


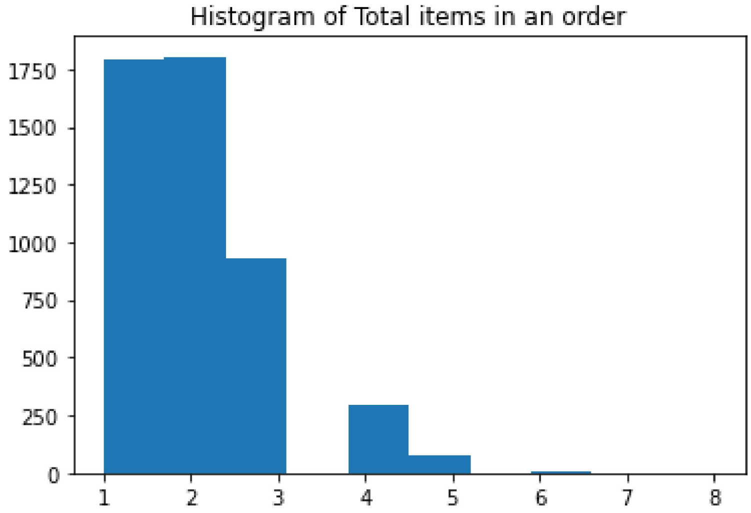


In [51]:

```
# Cleaning df
df_clean = df[df["avg_shoe_price"]<250]

# Visualizing order amount
fig4, ax1 = plt.subplots()
ax1.set_title('Histogram of Order Amount')
ax1.hist(df_clean.order_amount)

fig5, ax1 = plt.subplots()
ax1.set_title('Histogram of Total items in an order')
ax1.hist(df_clean.total_items)


# calculating average order value from the cleaned data set
print("AOV: $",round(df_clean["order_amount"].mean(),2))
```

```
AOV: $ 300.16
```


Histogram of Order Amount
1750
1500
1250
1000
750
500
250
0
200
400
600
800
1000


Histogram of Total items in an order
1750
1500
1250
1000
750
500
250
0
1
2
3
4
5
6
7
8