

```

# Import necessary libraries for heat map
import seaborn as sns
import pandas as pd
import numpy as np

# Code Set 1
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1235, 0], [44, 0]]
np_array = np.array(a)

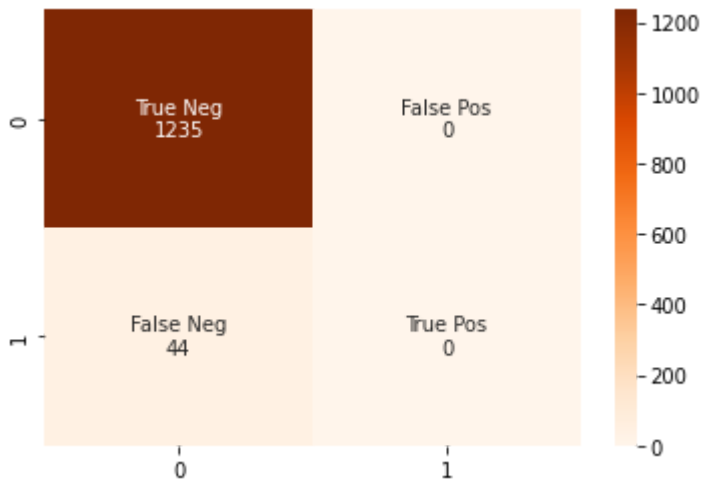
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612df1250>



```

# Code Set 2
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1413, 0], [60, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap

```

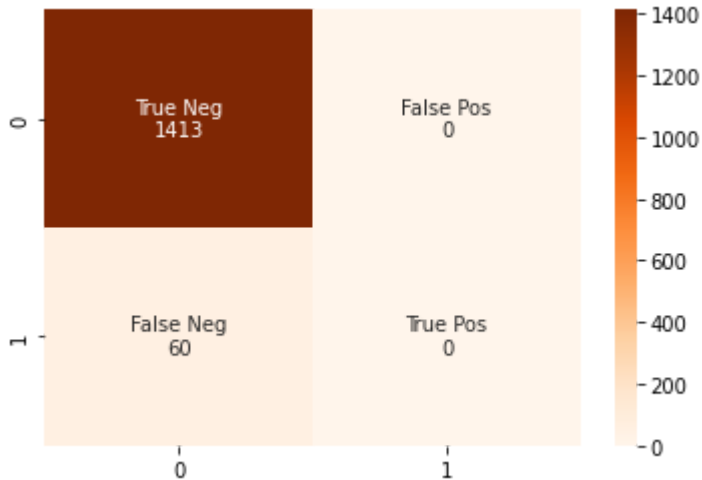
```

labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612d95150>



```

# Code Set 3
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1237, 0], [42, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612d1d4d0>



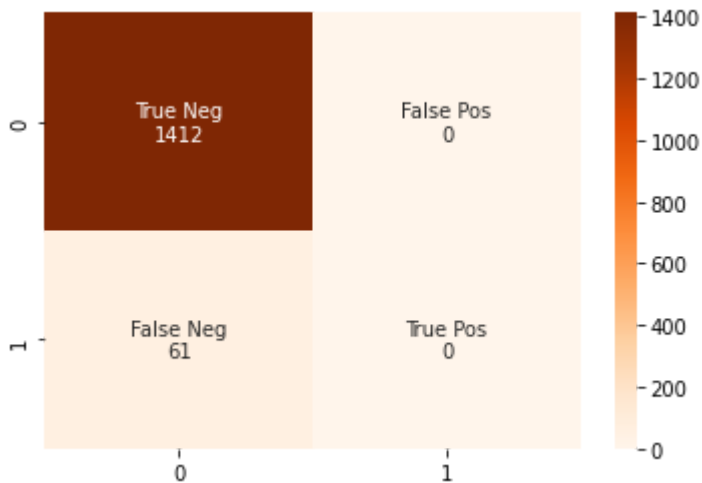
```
# Code Set 4
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1412, 0], [61, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{n{v2}}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612c59510>



```
# Code Set 5
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1415, 0], [58, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

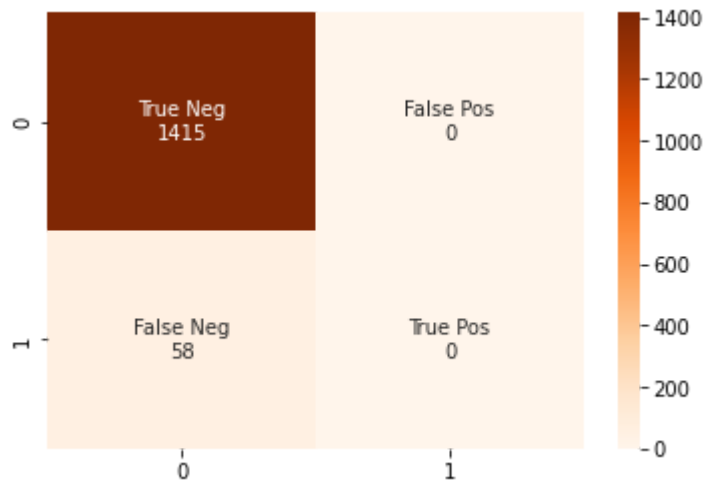
# Default heatmap
labels = [f"{v1}\n{n{v2}}" for v1, v2 in
          zip(group_names, group_counts)]
```

```
labels = np.asarray(labels).reshape(2,2)
```

```
# Display heatmap
```

```
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612b7de50>



```
# Code Set 6-1
```

```
# Create the array
```

```
# True Neg | False Pos | False Neg | True Pos
```

```
a = [[1409, 0], [64, 0]]
```

```
np_array = np.array(a)
```

```
# Correct labelling
```

```
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
```

```
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]
```

```
# Default heatmap
```

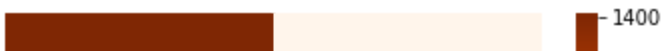
```
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
```

```
labels = np.asarray(labels).reshape(2,2)
```

```
# Display heatmap
```

```
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612b01dd0>



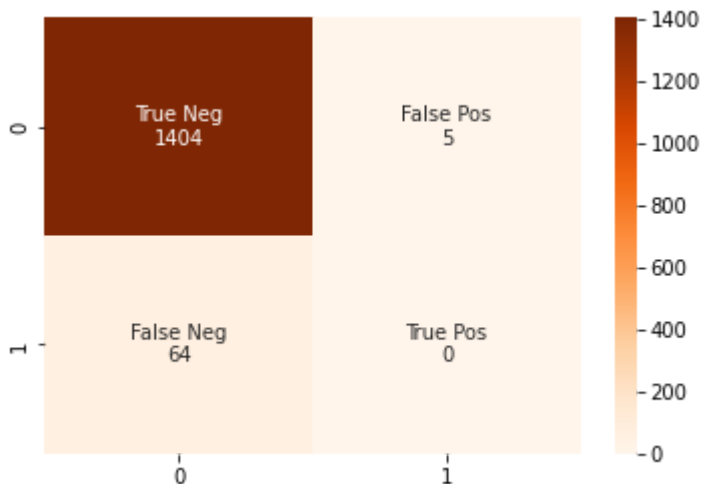
```
# Code Set 6-2
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1404, 5], [64, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612a4f650>



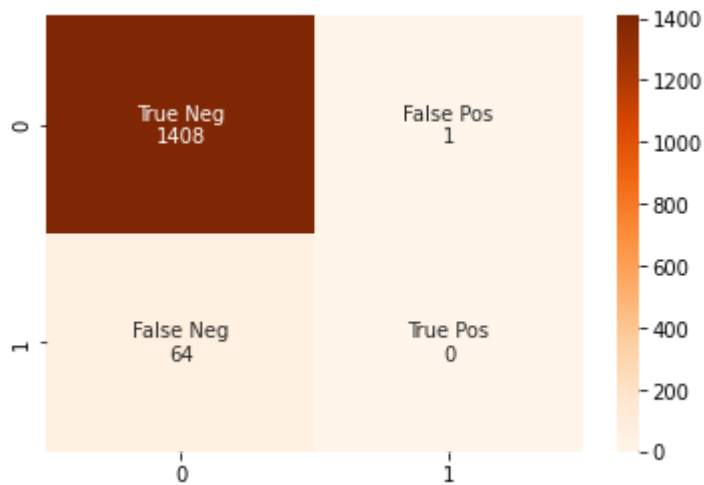
```
# Code Set 6-3
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1408, 1], [64, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)
```

```
# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe61297ba50>



```
# Code Set 7-1
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1409, 0], [64, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612820b10>

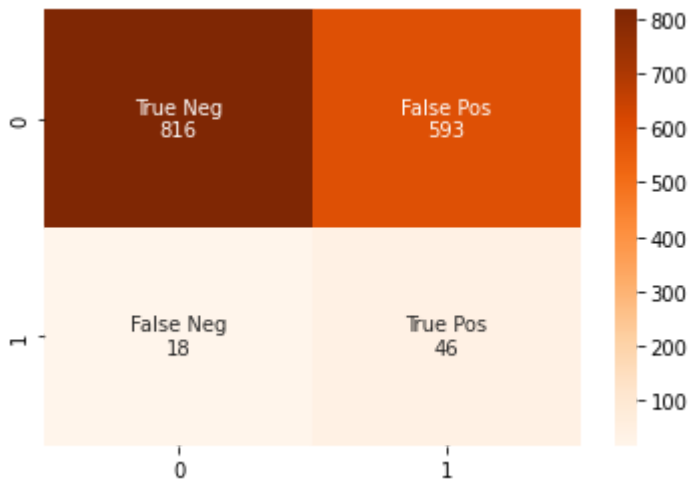
```
# Code Set 7-2
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[816, 593], [18, 46]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612859250>



```
# Code Set 7-3
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[793, 616], [23, 41]]
np_array = np.array(a)

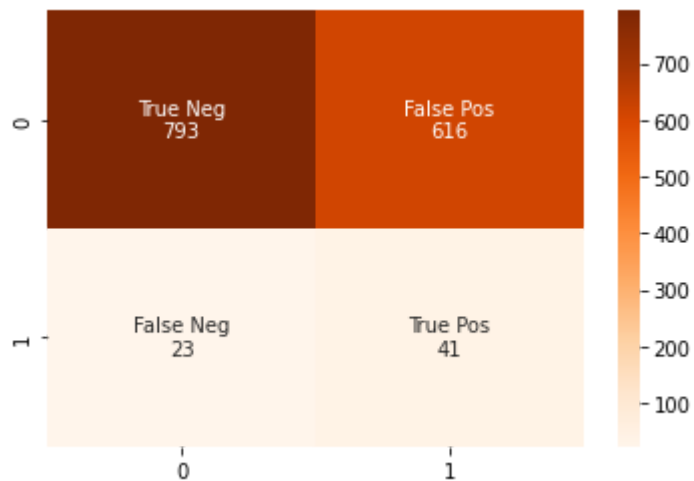
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

```
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges',
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe6127e7e90>



```
# Code Set 8-1
```

```
# Create the array
```

```
# True Neg | False Pos | False Neg | True Pos
```

```
a = [[1409, 0], [64, 0]]
```

```
np_array = np.array(a)
```

```
# Correct labelling
```

```
group_names = ['True Neg','False Pos','False Neg','True Pos']
```

```
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]
```

```
# Default heatmap
```

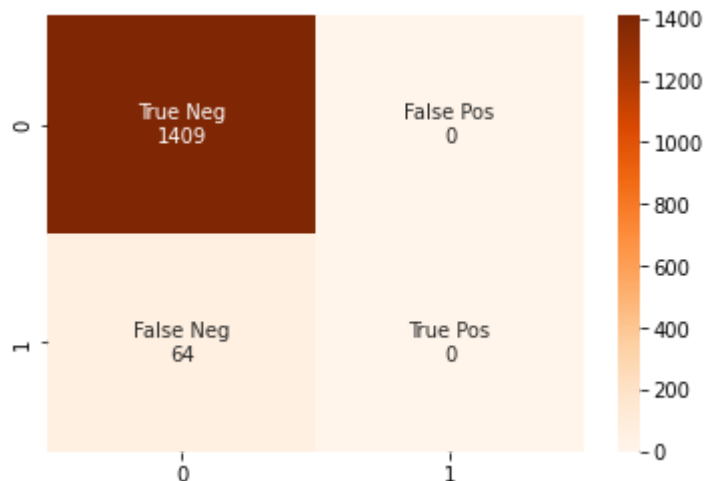
```
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
```

```
labels = np.asarray(labels).reshape(2,2)
```

```
# Display heatmap
```

```
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe612c4ed50>



```
# Code Set 8-2
```



```

# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1366, 43], [60, 4]]
np_array = np.array(a)

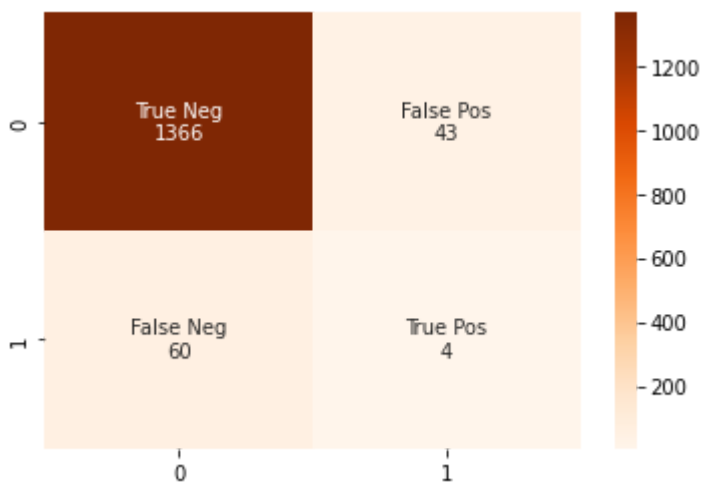
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{n{v2}}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe61269fb10>



```

# Code Set 8-3
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1265, 144], [37, 27]]
np_array = np.array(a)

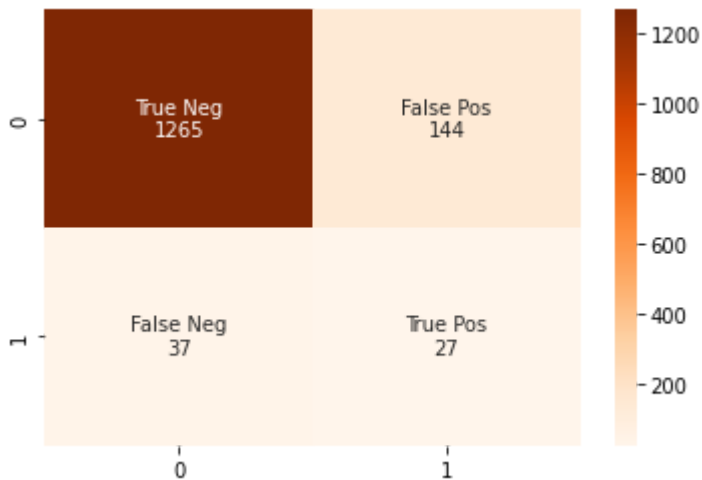
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{n{v2}}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe6125c8c10>



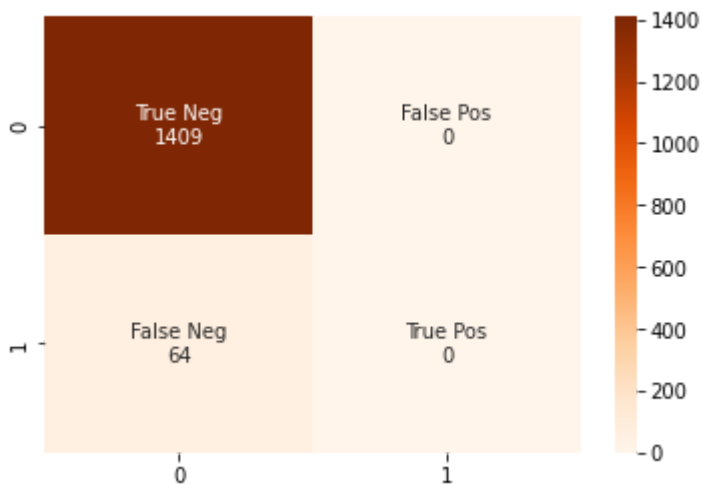
```
# Code Set 9-1
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1409, 0], [64, 0]]
np_array = np.array(a)

# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{n{v2}}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')
```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe61255f390>



```
# Code Set 9-2
# Create the array
# True Neg | False Pos | False Neg | True Pos
```

```

a = [[1346, 63], [55, 9]]
np_array = np.array(a)

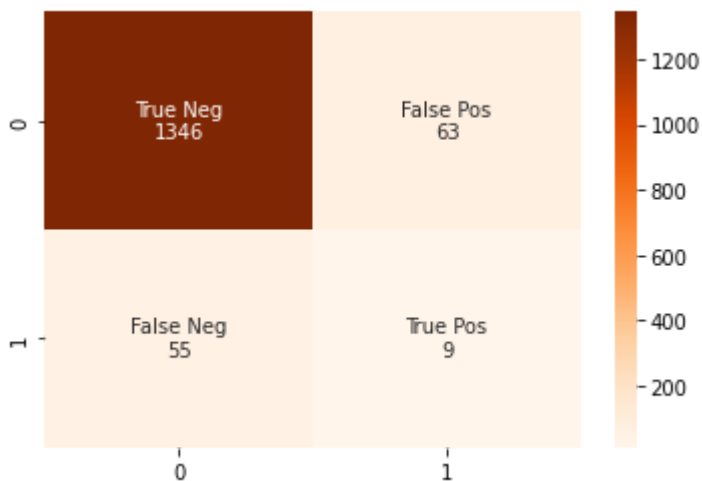
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe6124a1990>



```

# Code Set 9-3
# Create the array
# True Neg | False Pos | False Neg | True Pos
a = [[1282, 127], [35, 29]]
np_array = np.array(a)

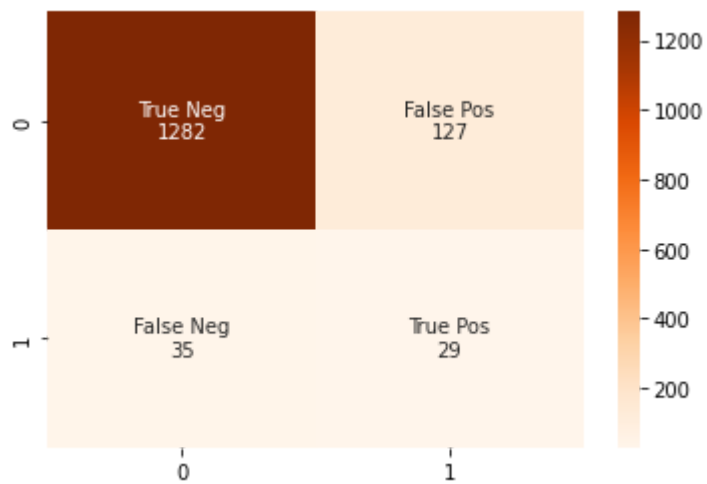
# Correct labelling
group_names = ['True Neg', 'False Pos', 'False Neg', 'True Pos']
group_counts = ["{0:0.0f}".format(value) for value in np_array.flatten()]

# Default heatmap
labels = [f"{v1}\n{v2}" for v1, v2 in
          zip(group_names, group_counts)]
labels = np.asarray(labels).reshape(2,2)

# Display heatmap
sns.heatmap(np_array, annot = labels, fmt = '', cmap = 'Oranges')

```

<matplotlib.axes._subplots.AxesSubplot at 0x7fe6123b7750>



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