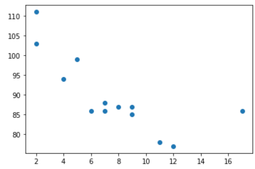
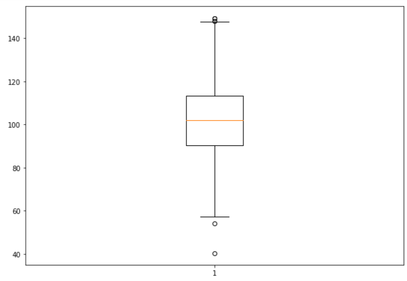
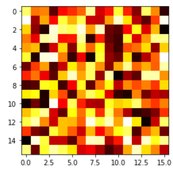
In [2]:
```
import matplotlib.pyplot as plt

x = [5,7,8,7,2,17,2,9,4,11,12,9,6]
y = [99,86,87,88,111,86,103,87,94,78,77,85,86]

plt.scatter(x, y)
plt.show()
```



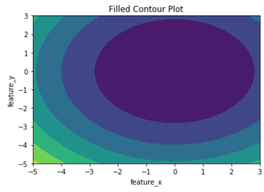
In [5]:
```
# Import libraries
import matplotlib.pyplot as plt
import numpy as np


# Creating dataset
np.random.seed(10)
data = np.random.normal(100, 20, 200)

fig = plt.figure(figsize =(10, 7))

# Creating plot
plt.boxplot(data)

# show plot
plt.show()
```



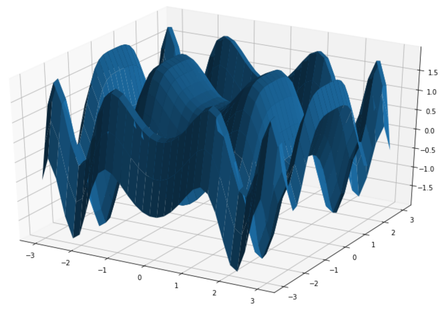
In [6]:
```
import matplotlib.pyplot as plt
import numpy as np

a = np.random.random((16, 16))
plt.imshow(a, cmap='hot', interpolation='nearest')
plt.show()
```



In [7]:
```
# Implementation of matplotlib function
import matplotlib.pyplot as plt
import numpy as np

feature_x = np.linspace(-5.0, 3.0, 70)
feature_y = np.linspace(-5.0, 3.0, 70)

# Creating 2-D grid of features
[X, Y] = np.meshgrid(feature_x, feature_y)

fig, ax = plt.subplots(1, 1)

Z = X ** 2 + Y ** 2

# plots filled contour plot
ax.contourf(X, Y, Z)

ax.set_title('Filled Contour Plot')
ax.set_xlabel('feature_x')
ax.set_ylabel('feature_y')

plt.show()
```



In [8]:
```
# Import libraries
from mpl_toolkits import mplot3d
import numpy as np
import matplotlib.pyplot as plt


# Creating dataset
x = np.outer(np.linspace(-3, 3, 32), np.ones(32))
y = x.copy().T # transpose
z = (np.sin(x **2) + np.cos(y **2) )

# Creating figure
fig = plt.figure(figsize =(14, 9))
ax = plt.axes(projection ='3d')

# Creating plot
ax.plot_surface(x, y, z)

# show plot
plt.show()
```



In [9]:
```
import numpy as np
list=np.random.normal(size=1000)
print("Mean",np.average(list))
print("Variable",np.var(list))
print("SD:",np.std(list))
```

```
Mean -0.02373935400485589
Variable 0.9074598638058936
SD: 0.9526068778913438
```

In [10]:
```
import numpy as np
list=np.random.poisson(size=1000)
print("Mean",np.average(list))
print("Variable",np.var(list))
print("SD:",np.std(list))
```

```
Mean 0.938
Variable 0.9881560000000001
SD: 0.9940603603403568
```

In [ ]: