

```
import seaborn as sns
import pandas as pd
%matplotlib inline
import matplotlib.pyplot as plt
import numpy as np
from pylab import *
from mpl_toolkits import mplot3d
```

```
%matplotlib inline
import numpy as np
import matplotlib.pyplot as plt
```

```
data_heart = pd.read_csv("dataset/heart.csv")
data_heart.head()
```

```
x = np.linspace(0, 5, 10)
```

```
y = x ** 2
```

```
figure()
```

```
plot(x, y, 'r')
```

```
xlabel('age')
```

```
ylabel('chol')
```

```
title('2d')
```

```
show()
```

## Problem Solving Using Python and R Lab

### Lab13. 2D and 3D Data Visualization using Matplotlib and Seaborn

In this lab, you will draw simple 2-dimensional and 3-dimensional charts from matplotlib and seaborn packages.

**Question1.** Plot all 2D and 3D Plots using **Matplotlib** and **Seaborn**.

- Plot 2D line, bar, histogram and box plot using Matplotlib
- Histogram and box plot using Seaborn

Reference: <https://acadgild.com/blog/data-visualization-using-matplotlib-and-seaborn>

```
fig = plt.figure()
```

```
axes = fig.add_axes([0.1, 0.1, 0.8, 0.8])
```

```
axes.plot(x, y, 'r')
```

```
axes.set_xlabel('x')
```

```
axes.set_ylabel('y')
```

```
axes.set_title('2d');
```

```
fig = plt.figure()
```

```
ax = plt.axes(projection='3d')
```

```
def f(x, y):
```

```
    return np.sin(np.sqrt(x**2 + y**2))
```

```
x = np.linspace(-6, 6, 30)
```

```
y = np.linspace(-6, 6, 30)
```

```
x, y = np.meshgrid(x, y)
```

```
z = f(x, y)
```