



Marwadi University
Faculty of Engineering & Technology
Department of Information and Communication Technology

Subject: Programming With Python (01CT1309)

Aim: Practical based on Data Visualization with Seaborn

Experiment No: 27

Date:

Enrollment No: 92400133037

Aim: Practical based on Data Visualization with Seaborn

IDE:

Installation

pip install seaborn

Histplot: Seaborn Histplot is used to visualize the univariate set of distributions(single variable). It plots a histogram, with some other variations like kdeplot and rugplot.

```
import numpy as np
```

```
import seaborn as sns
```

```
sns.set(style="white")
```

```
# Generate a random univariate dataset
```

```
rs = np.random.RandomState(10)
```

```
d = rs.normal(size=100)
```

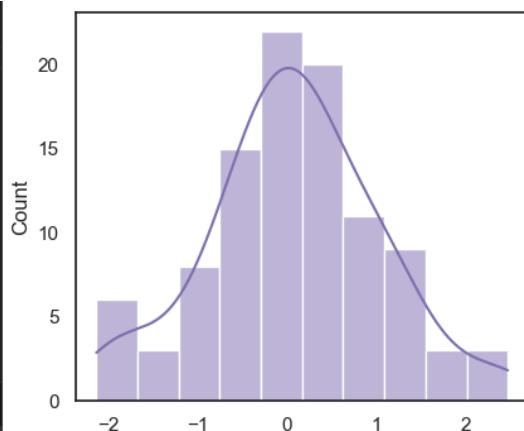
```
# Plot a simple histogram and kde
```

```
sns.histplot(d, kde=True, color="m")
```

Output

```
27 > hist.py > ...
1 ✓ import numpy as np
2   import seaborn as sns
3   import matplotlib.pyplot as plt
4   sns.set(style="white")
5   rs = np.random.RandomState(10)
6   d = rs.normal(size=100)
7   sns.histplot(d, kde=True, color="m")
8   plt.show()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
```





Subject: Programming With Python (01CT1309)

Aim: Practical based on Data Visualization with Seaborn

Experiment No: 27

Date:

Enrollment No: 92400133037

Distplot: Seaborn distplot is used to visualize the univariate set of distributions(Single features) and plot the histogram with some other variations like kdeplot and rugplot.

Lineplot: The line plot is one of the most basic plots in the seaborn library. This plot is mainly used to visualize the data in the form of some time series, i.e. in a continuous manner.

```
import seaborn as sns
```

```
sns.set(style="dark")
```

```
fmri = sns.load_dataset("fmri")
```

```
# Plot the responses for different\
```

```
# events and regions
```

```
sns.lineplot(x="timepoint",
```

```
y="signal",
```

```
hue="region",
```

```
style="event",
```

```
data=fmri)
```

output

The screenshot shows a Jupyter Notebook interface. On the left, the code for generating a line plot is displayed in a code cell:

```
lab27 > ⚡ line.py > ...
1 import seaborn as sns
2 import matplotlib.pyplot as plt
3 sns.set(style="dark")
4 fmri = sns.load_dataset("fmri")
5
6 sns.lineplot(x="timepoint",
7 y="signal",
8 hue="region",
9 style="event",
10 data=fmri)
11 plt.show()
```

On the right, the resulting line plot is shown. The x-axis is labeled "timepoint" and ranges from 0 to 15. The y-axis ranges from -0.1 to 0.3. There are four data series representing different brain regions: parietal (blue), frontal (orange), event (solid line) and stim (dashed line). Shaded areas around the lines represent confidence intervals. The plot shows a peak around timepoint 6 for the parietal region and a smaller peak around timepoint 5 for the frontal region.



Subject: Programming With Python (01CT1309)

Aim: Practical based on Data Visualization with Seaborn

Experiment No: 27

Date:

Enrollment No: 92400133037

Lmplot: The Lmplot is another most basic plot. It shows a line representing a linear regression model along with data points on the 2D space and x and y can be set as the horizontal and vertical labels respectively.

```
import seaborn as sns
```

```
sns.set(style="ticks")
```

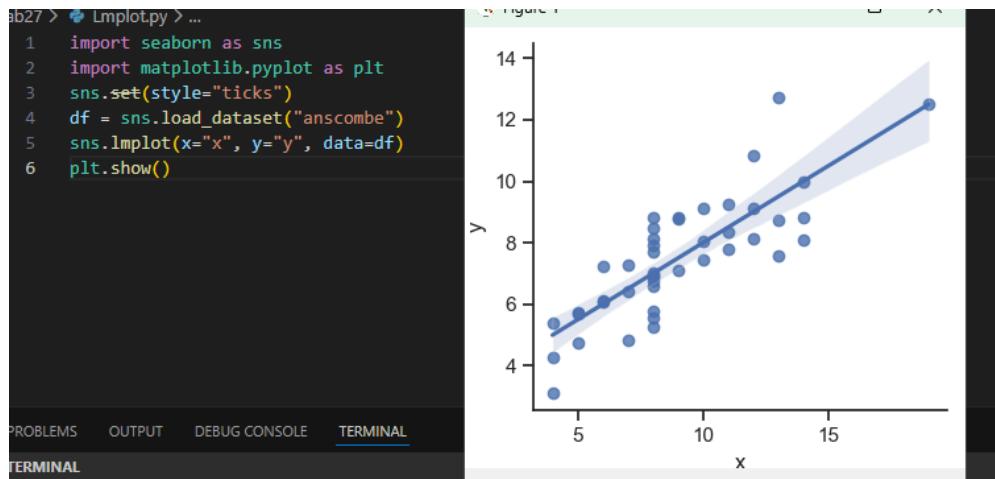
```
# Loading the dataset
```

```
df = sns.load_dataset("anscombe")
```

```
# Show the results of a linear regression
```

```
sns.lmplot(x="x", y="y", data=df)
```

Output



Post Lab

Visualize the data with a box plot and pandas

Draw the violin plot with Pandas



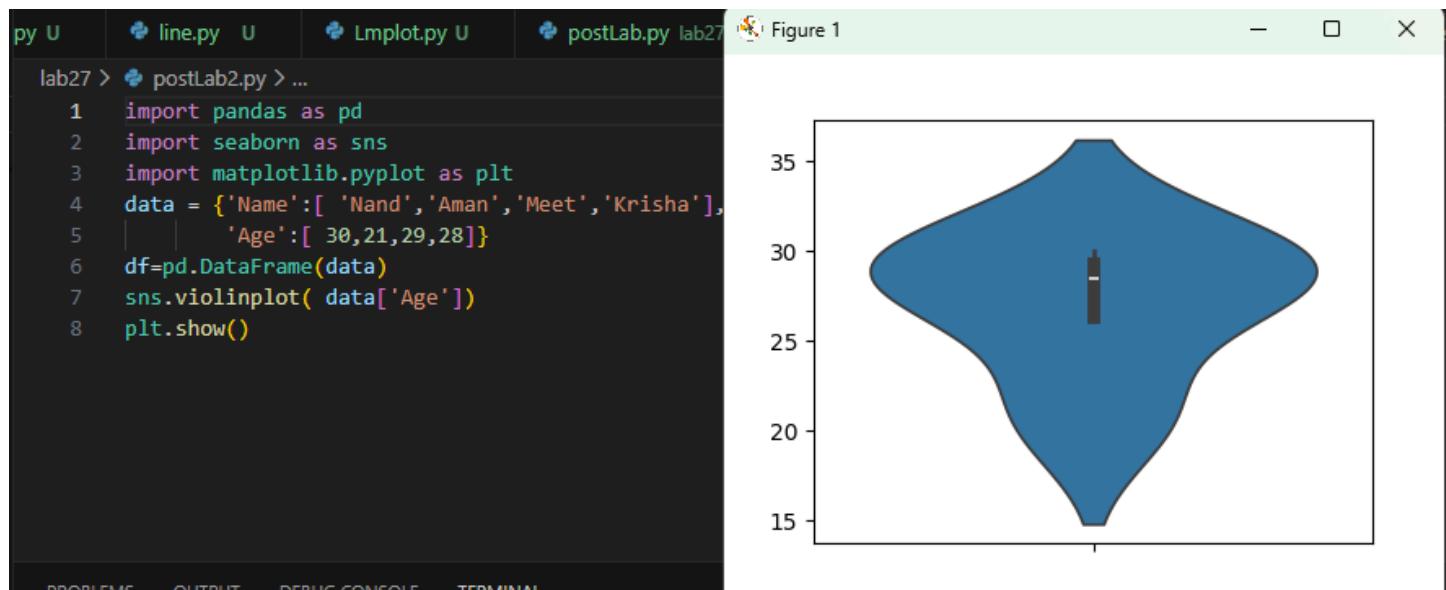
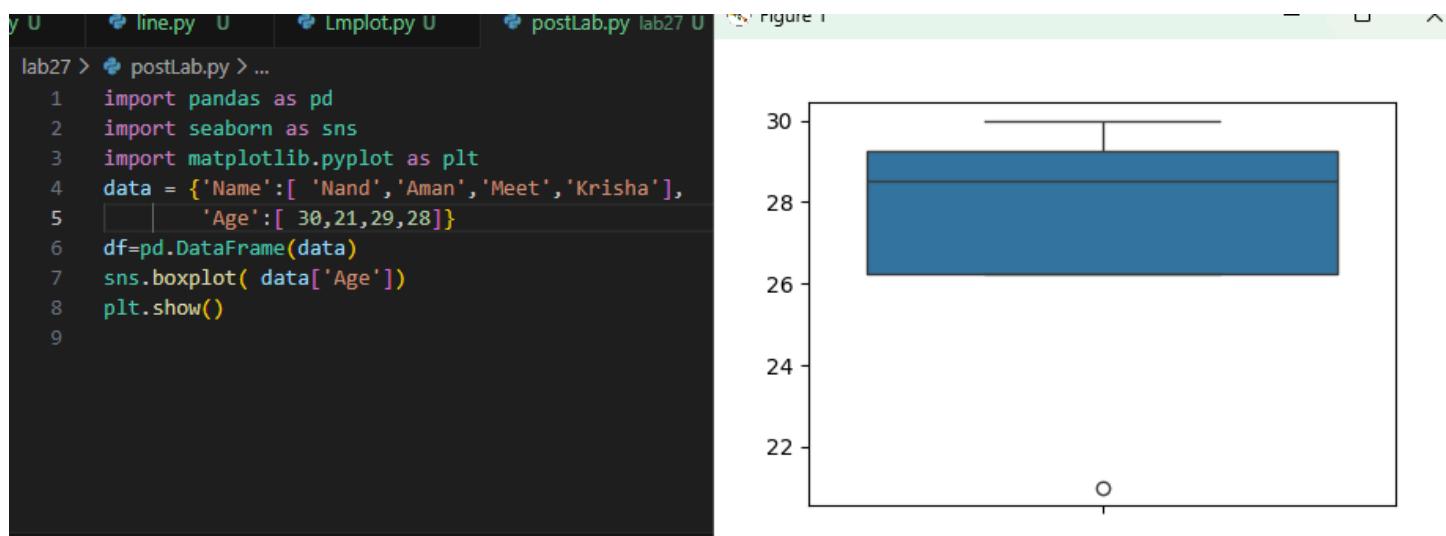
Subject: Programming With Python (01CT1309)

Aim: Practical based on Data Visualization with Seaborn

Experiment No: 27

Date:

Enrollment No: 92400133037



GITHUB LINK:

https://github.com/Heer972005/Python_Lab