Marwadi University Marwadi Chandarana Group NAAC A+	**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: 92400133181**

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")

```
import numpy as np
import seaborn as sns
sns.set(style="white")
# Generate a random univariate dataset
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sns.histplot(d, kde=True, color="m")
```

Output

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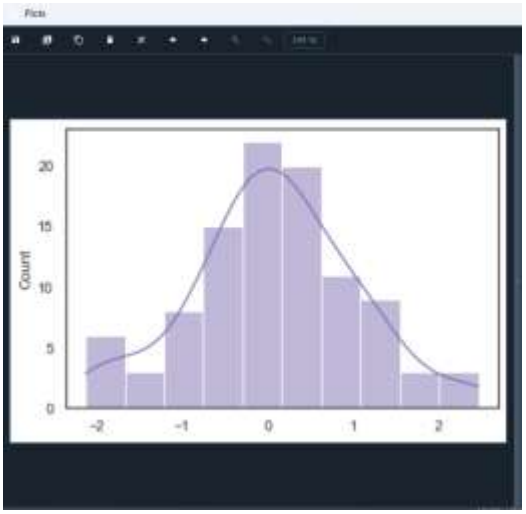

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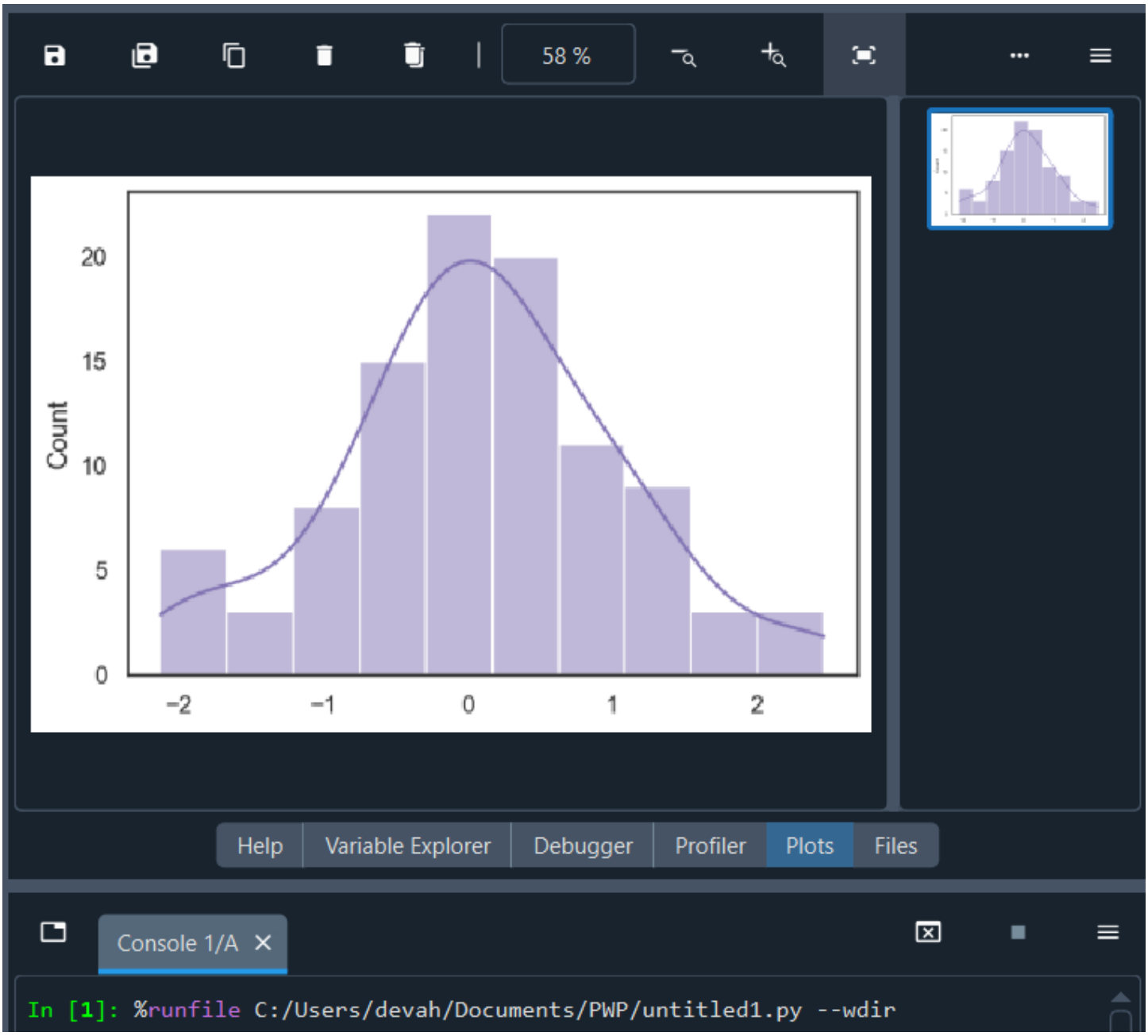

Distplot: Seaborn distplot is used to visualize the univariate set of distributions(Single features) and plot the histogram with some other variations like kdeplot and rugplot.

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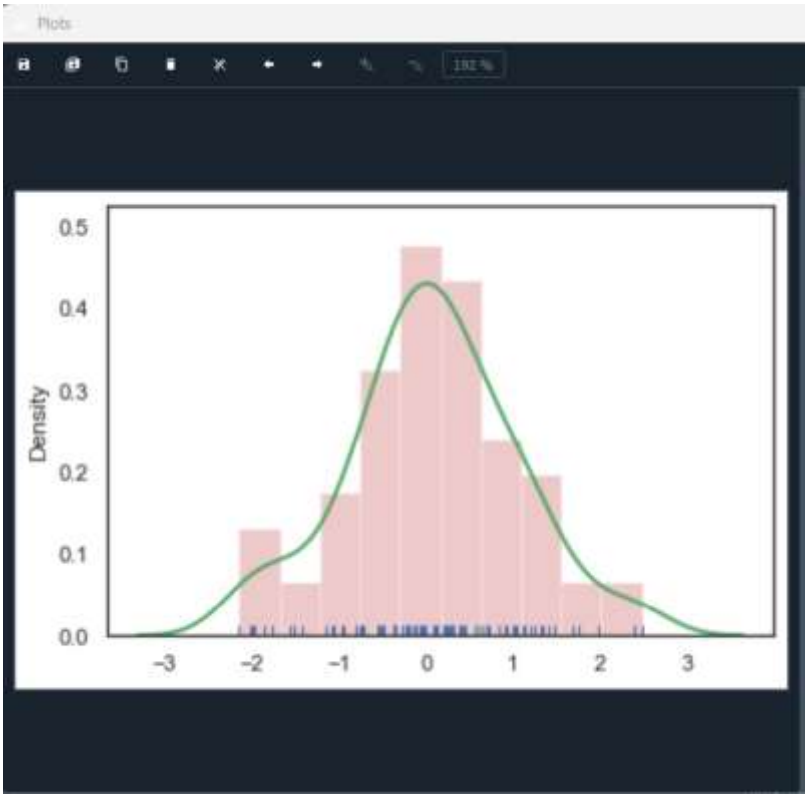

Lineplot: The line plot is one of the most basic plots in the seaborn library. This plot is mainly used to visualize the data in the form of some time series, i.e. in a continuous manner.

```
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",
```

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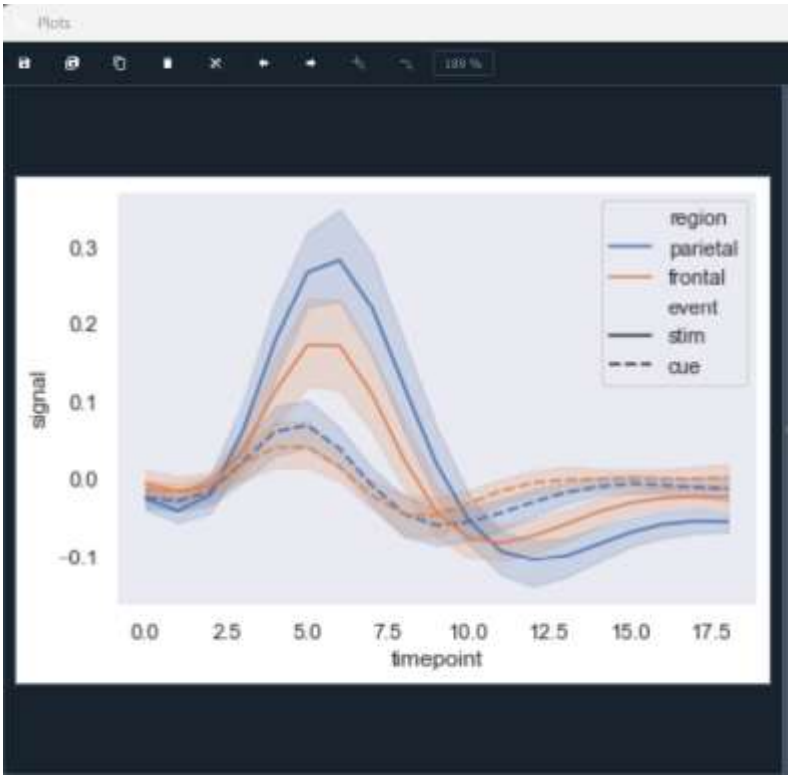
data=fmri)

```
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



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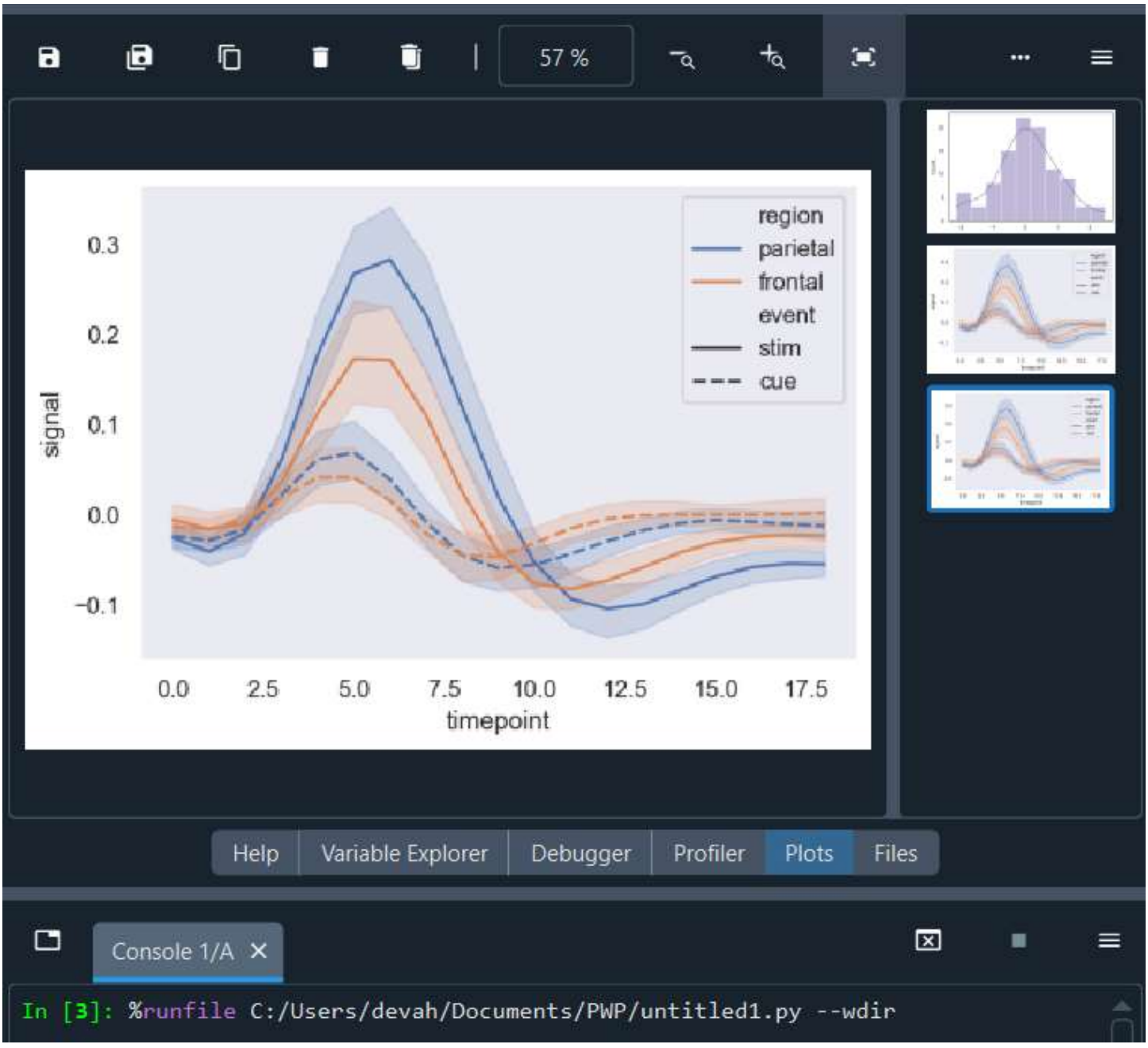

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Lmplot: The lmplot is another most basic plot. It shows a line representing a linear regression model along with data points on the 2D space and x and y can be set as the horizontal and vertical labels respectively.

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)

```
21  import seaborn as sns
22  sns.set(style="ticks")
23  # Loading the dataset
24  df = sns.load_dataset("anscombe")
25  # Show the results of a linear regression
26  sns.lmplot(x="x", y="y", data=df)
27
```

Output:

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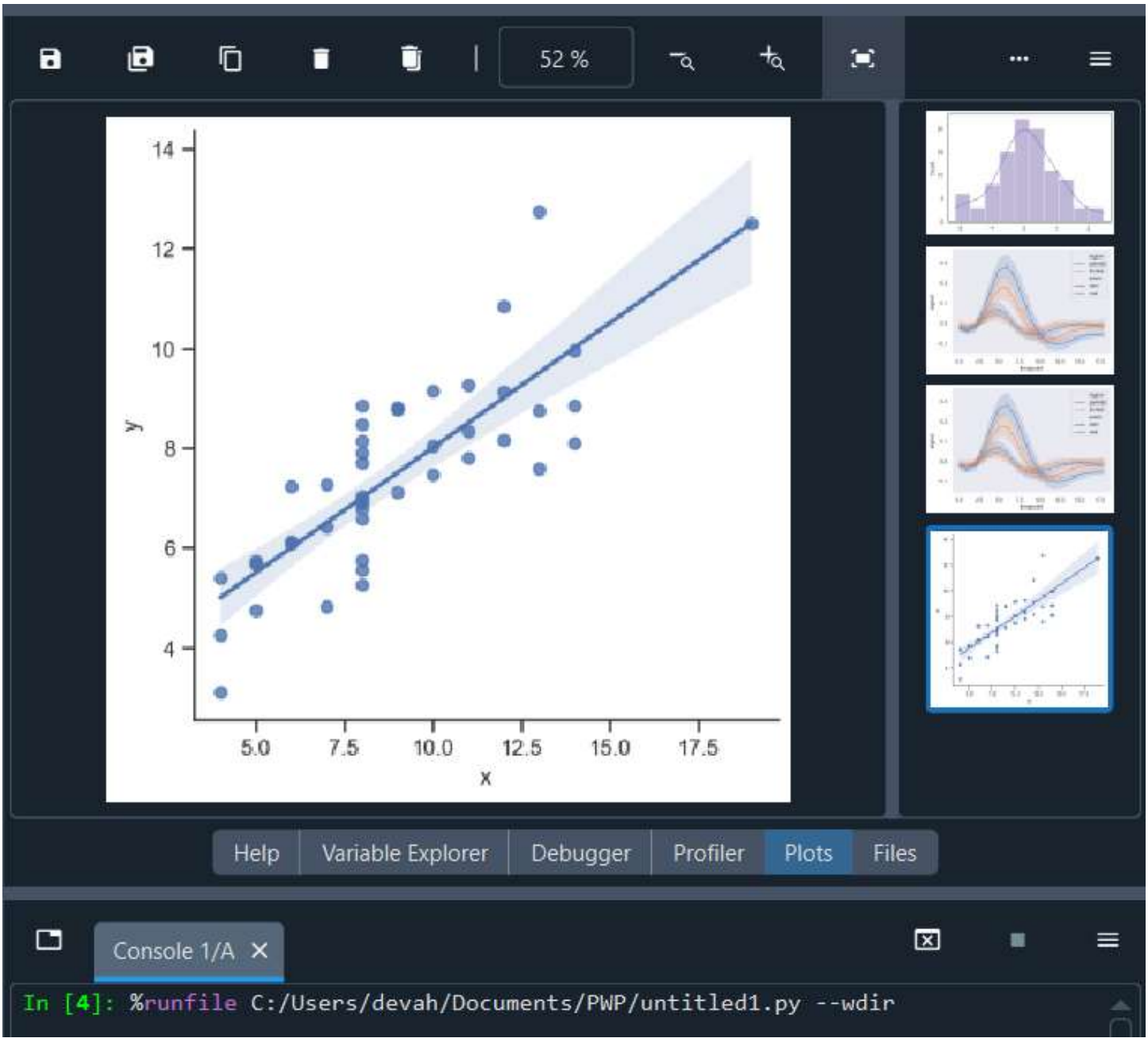

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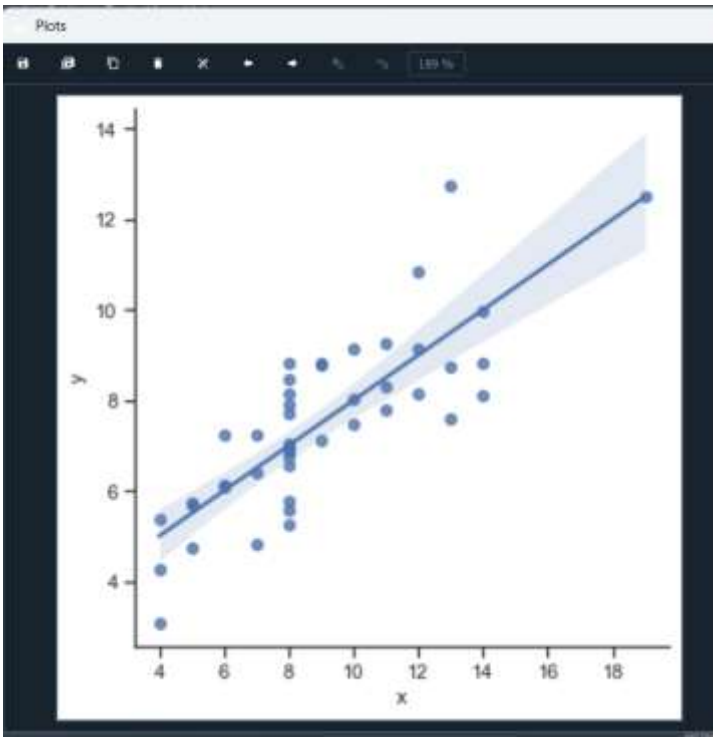

Post Lab:

Visualize the data with a box plot and pandas:

```
import pandas as pd

import seaborn as sns


# initialise data of lists

data = {'Name':[ 'Mohe' , 'Karnal' , 'Yrik' , 'jack' ],

        'Age':[ 30 , 21 , 29 , 28 ]}

df = pd.DataFrame( data )

sns.boxplot( data['Age'] )
```

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```python
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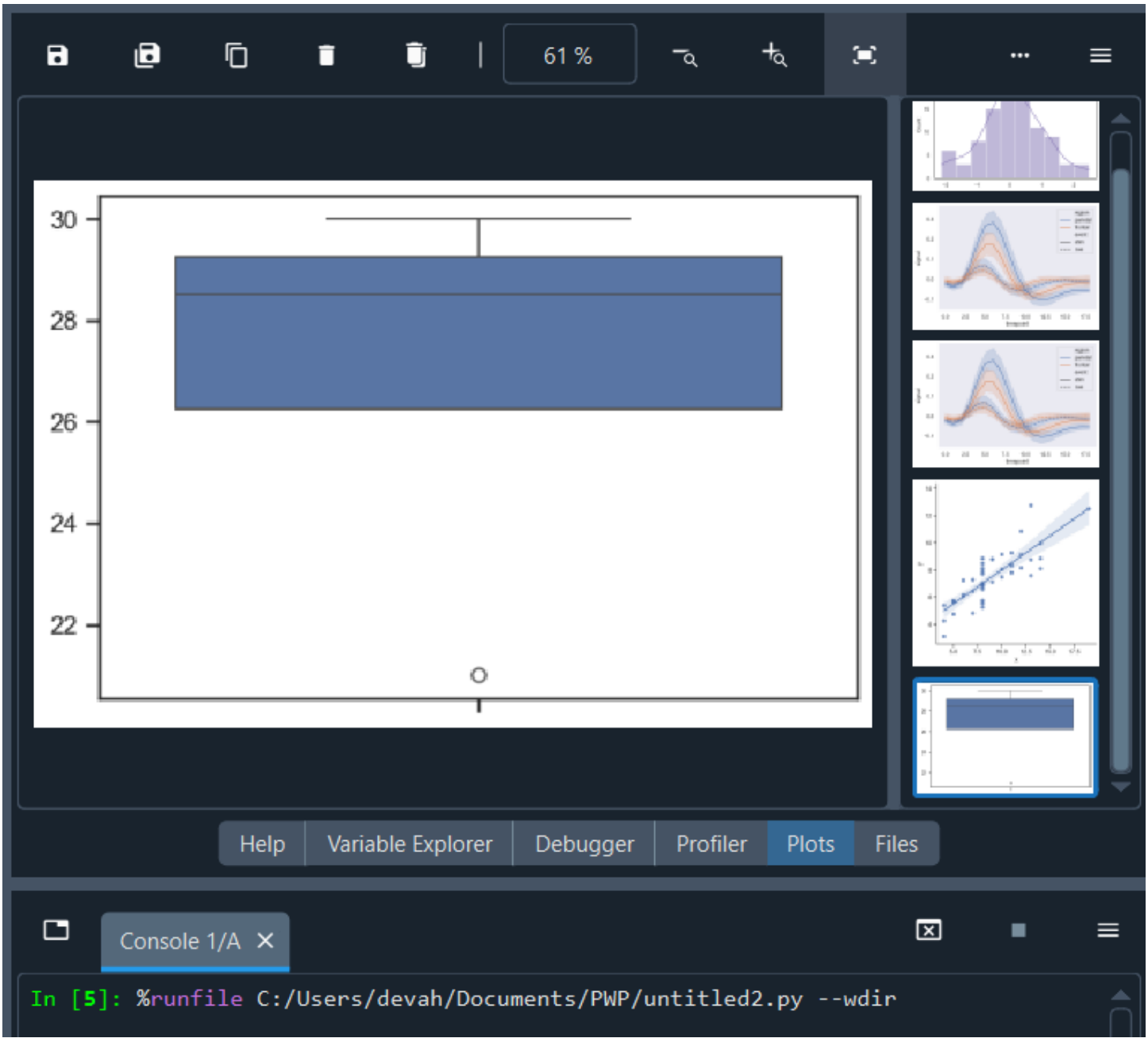

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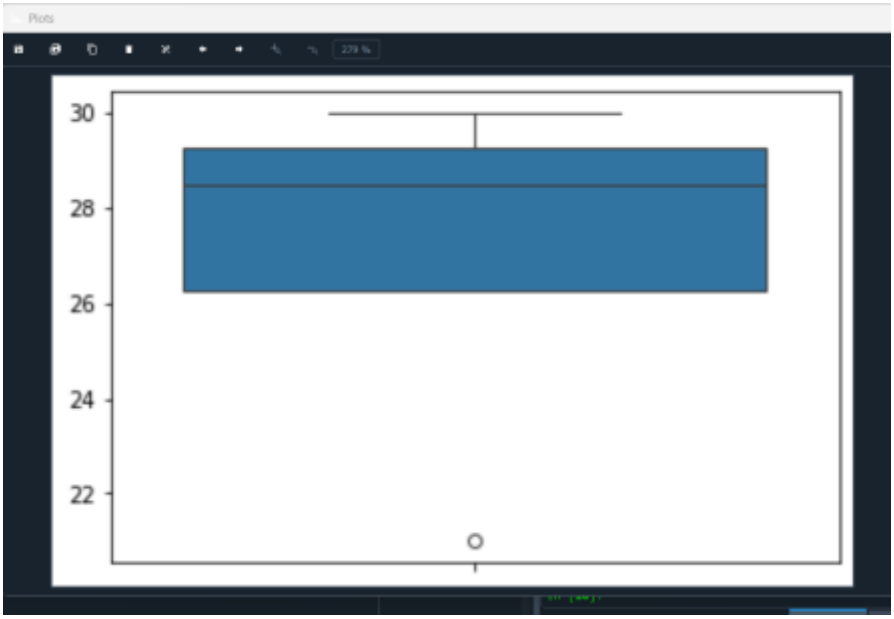

Draw the violin plot with Pandas

```
import pandas as pd
import seaborn as sns
# initialise data of lists
data = {'Name':[ 'Mohe' , 'Karnal' , 'Yrik' , 'jack' ],
        'Age':[ 30 , 21 , 29 , 28 ]}
df = pd.DataFrame( data )
sns.violinplot(data['Age'])
```

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sns.violinplot(data['Age'])

```

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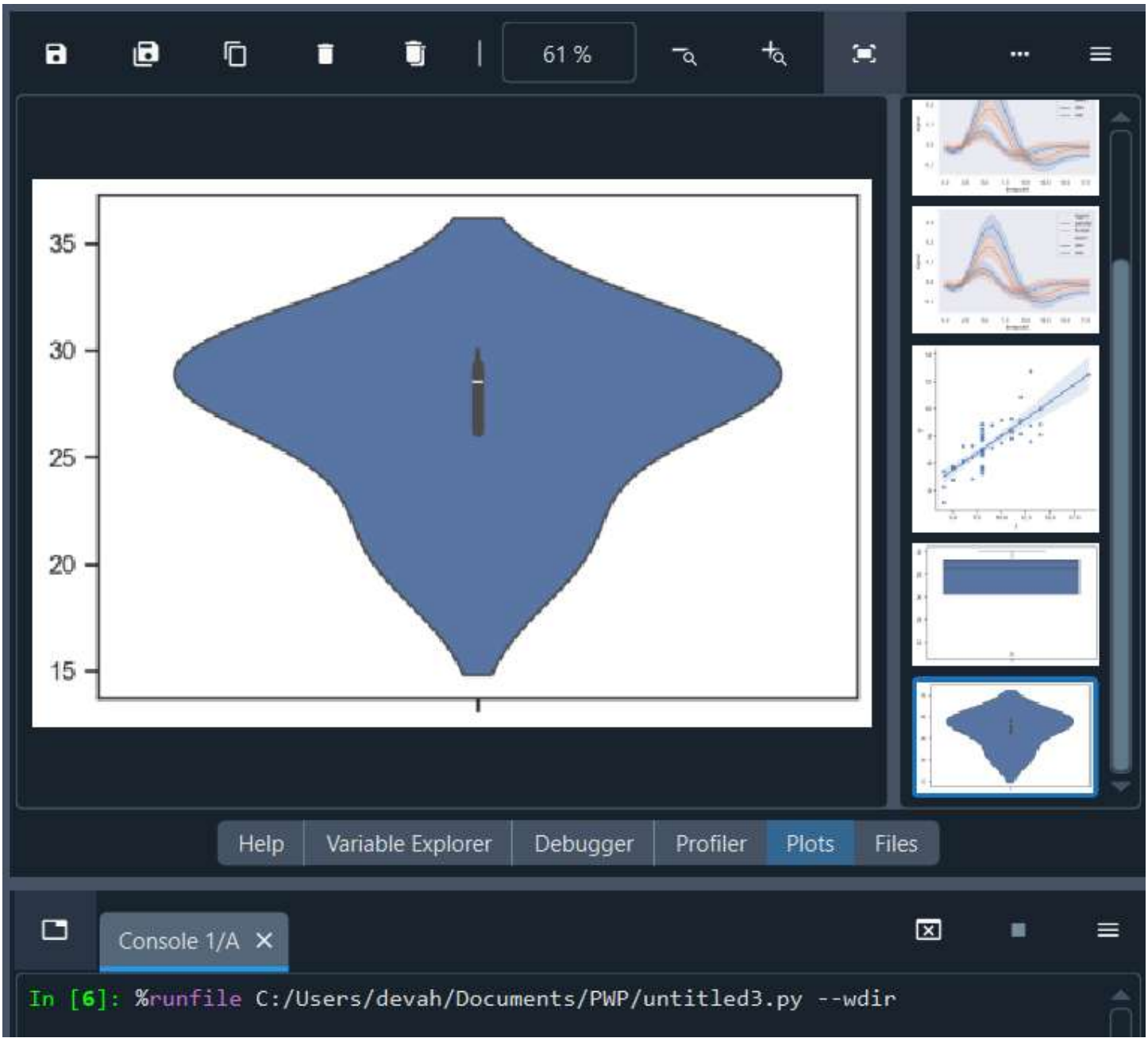

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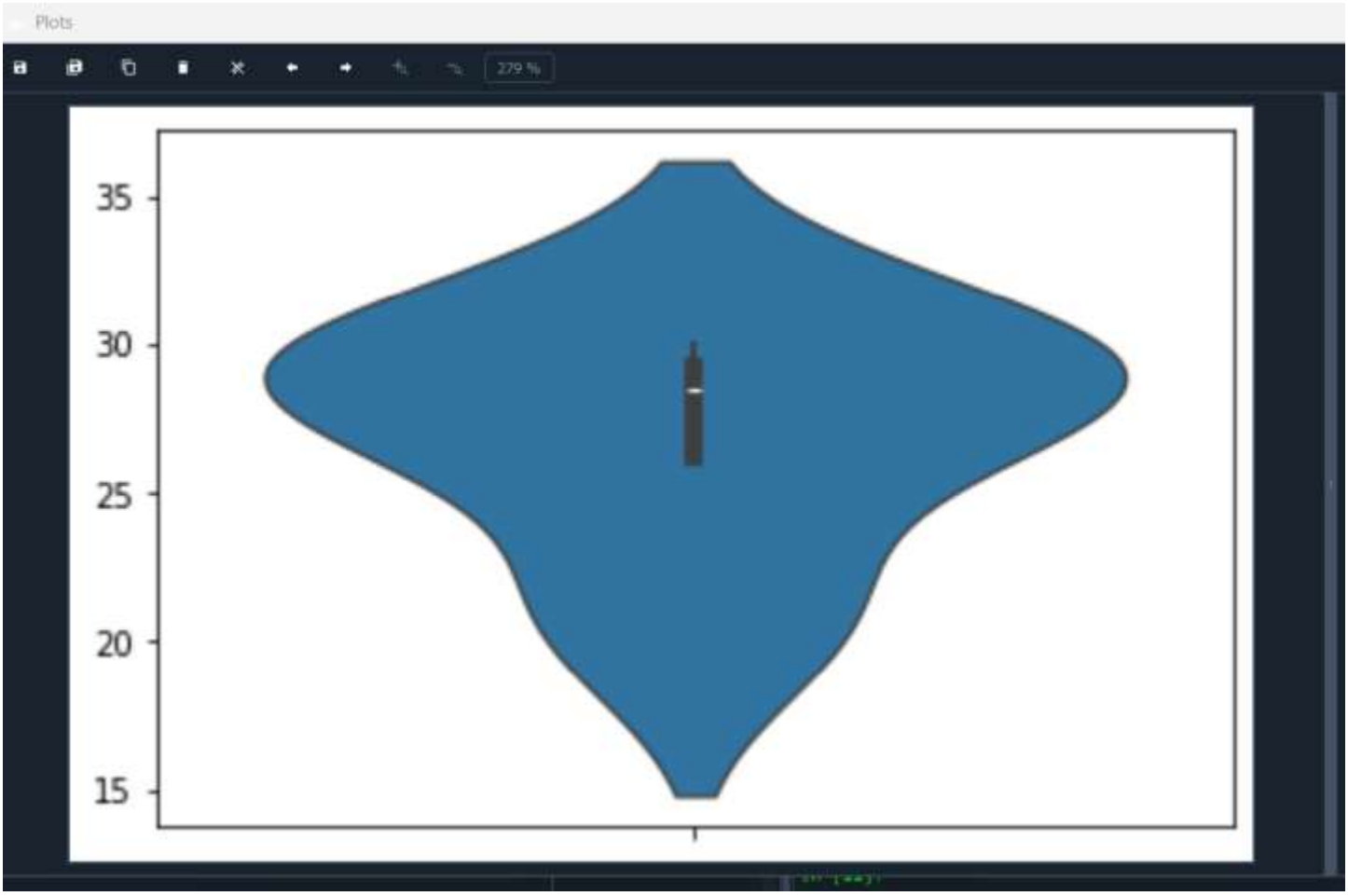

GitHub:

https://github.com/mallaadisrinivasu132035-code/python.git