

PRACTICAL NO. 7

AIM: Write a program to demonstrate histogram in python.functions:

THEORY:

In this program, we first import the necessary libraries (matplotlib and numpy). We then generate some random data using NumPy's random.normal function. This generates 1000 random numbers with a mean of 0 and a standard deviation of 10.

We then create a histogram of the data using plt.hist(). We specify the number of bins using the bins parameter, which is set to 50 in this example.

Finally, we add a title and labels to the plot using plt.title(), plt.xlabel(), and plt.ylabel(). We then show the plot using plt.show().

When you run this program, you should see a histogram of the random data, with 50 bins. The x-axis shows the value of the data, and the y-axis shows the frequency of each value.

Code:

```
import matplotlib.pyplot as plt

import numpy as np

# Generate some random data

data = np.random.normal(0, 10, 1000)

# Create a histogram with 50 bins

plt.hist(data, bins=50)
```

```
# Add title and labels

plt.title("Histogram of Random Data")

plt.xlabel("Value")

plt.ylabel("Frequency")


# Show the plot

plt.show()
```

CONCLUSION:

Thus we have successfully executed programs .