**G. H. RAISONI COLLEGE OF ENGG., NAGPUR**

**(An Autonomous Institute)**

**Department of Computer Science & Engg.**



**Date: 31-08-2021**

**Practical Subject: Skill Development-2 [BCSP318]**

**Session: 2021-22**

**Student Details:**

| **Roll Number** | 44 |
| --- | --- |
| **Name** | Anand Suralkar |
| **Semester** | 9th |
| **Section** | A |
| **Batch** | CSE |

**Practical Details: Practical Number-5;**

| Practical Aim | Perform various visualization using  matplotlib |
| --- | --- |
| Theory & Syntax | Python | Introduction to Matplotlib:  Matplotlib is an amazing visualization library in Python for 2D plots of arrays. Matplotlib is a multi-platform data visualization library built on NumPy arrays and designed to work with the broader SciPy stack. It was introduced by John Hunter in the year 2002.  One of the greatest benefits of visualization is that it allows us visual access to huge amounts of data in easily digestible visuals. Matplotlib consists of several plots like line, bar, scatter, histogram etc.  Installation :  Windows, Linux and macOS distributions have matplotlib and most of its dependencies as wheel packages. Run the following command to install matplotlib package :python -mpip install -U matplotlib    Importing matplotlib :  from matplotlib import pyplot as plt  or  import matplotlib.pyplot as plt  Basic plots in Matplotlib :  Matplotlib comes with a wide variety of plots. Plots helps to understand trends, patterns, and to make correlations. They’re typically instruments for reasoning about quantitative information. Some of the sample plots are covered here. |
| Program | from matplotlib import pyplot as plt  x = [7, 5, 14, 17, 2]  y = [12, 0, 8, 13, 12]  plt.plot(x,y)  plt.show()  from matplotlib import pyplot as plt  y=[4, 11, 17, 6, 21]  plt.hist(y)  plt.show()  from matplotlib import pyplot as plt  x=[5,15,10,14,7]  y = [1, 18, 6, 7, 9]  plt.bar(x,y)  plt.show()  from matplotlib import pyplot as plt  x=[5,15,10,14,7]  y = [1, 18, 6, 7, 9]  plt.scatter(x, y)  plt.show() |
| Output |  |
| Conclusion | Performed various visualization ie. line plot,scatter plot,bar plot histogram using  matplotlib |