**Lab 03**

Bokeh is an interactive data visualization library in Python, ideal for creating web-based, high-performance, and easily customizable visualizations. It enables the generation of elegant and concise graphics, including plots, dashboards, and complex visual applications. Bokeh integrates with popular Python libraries like Pandas and Jupyter Notebook, making it convenient for data scientists. Its strength lies in rendering simple and complex visualizations for large datasets, supporting HTML and JavaScript outputs to enable seamless integration into web applications.

**Installation:**

pip install bokeh

**Lab Tasks**

**Task 1**: Plot a simple line graph with x-values ranging from 0 to 10 and y-values as the squares of x.

**Task 2**: Create a scatter plot of random points with custom marker shapes.

**Task 3**: Plot a bar chart showing the average monthly temperatures for three cities.

**Task 4**: Create a sine wave that updates based on a frequency slider.

**Task 5**: Create a bar chart with hover tooltips showing the value of each bar.

**Task 6**: Create a heatmap to show intensity values for a grid.

**Task 7**: Plot multiple sine and cosine waves on the same figure with a legend.

**Task 8**: Create two linked line plots with panning and zooming.