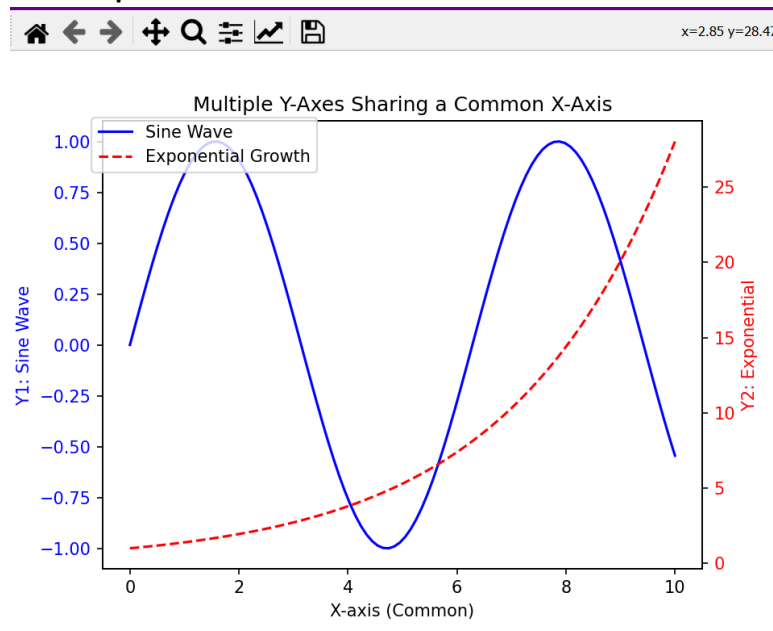


## Task Report:

### 1. Task Description

- The task involves visualizing two datasets with distinct y-axis scales on the same x-axis. This is achieved using Python's Matplotlib library. The purpose is to plot a sine wave and an exponential growth function, sharing a common x-axis but having separate y-axes, each with a unique scale.

### 2. Task Output Screenshot



### 3. Widget/Algorithm Used In Task

#### Algorithm/Technique Used:

- The **twinx()** method in Matplotlib creates a second y-axis that shares the same x-axis as the original. This is useful for displaying two datasets with vastly different scales in one plot.
- The sine wave ( $y_1 = \sin(x)$ ) represents periodic data, while the exponential function ( $y_2 = \exp(x/3)$ ) represents rapid growth. Both were plotted using `plot()` function.
- Styling and Customization:**
- Color-coded axes:** The primary and secondary y-axes are color-coded for better readability (blue for sine wave and red for exponential).
- Legend:** A shared legend is positioned in the upper-left corner using the `fig.legend()` method