ITW Experiment 7

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Aim: Use the Plot function in MATLAB

Theory:

In MATLAB, the `plot` function is a fundamental tool for creating 2D plots and visualizing data. It is a versatile function that can be used for a wide range of plotting tasks. Here is some theory and key information about the `plot` function:

1. *Basic Usage*:

   - `plot` is used to create 2D plots of data points.

   - It typically takes two arguments: the x-values and y-values of the data points to be plotted.

2. *Line Style and Color*:

   - You can specify the line style and color using additional arguments. For example, you can create a red dashed line by using: `plot(x, y, 'r--')`.

3. *Markers*:

   - Markers can be added to data points for better visualization. For example, `plot(x, y, 'o')` will add circular markers at data points.

4. *Title and Labels*:

   - You can add a title to the plot using the `title` function, and label the x and y-axes using `xlabel` and `ylabel`.

5. *Legends*:

   - If you have multiple data series in the same plot, you can add a legend to distinguish them.

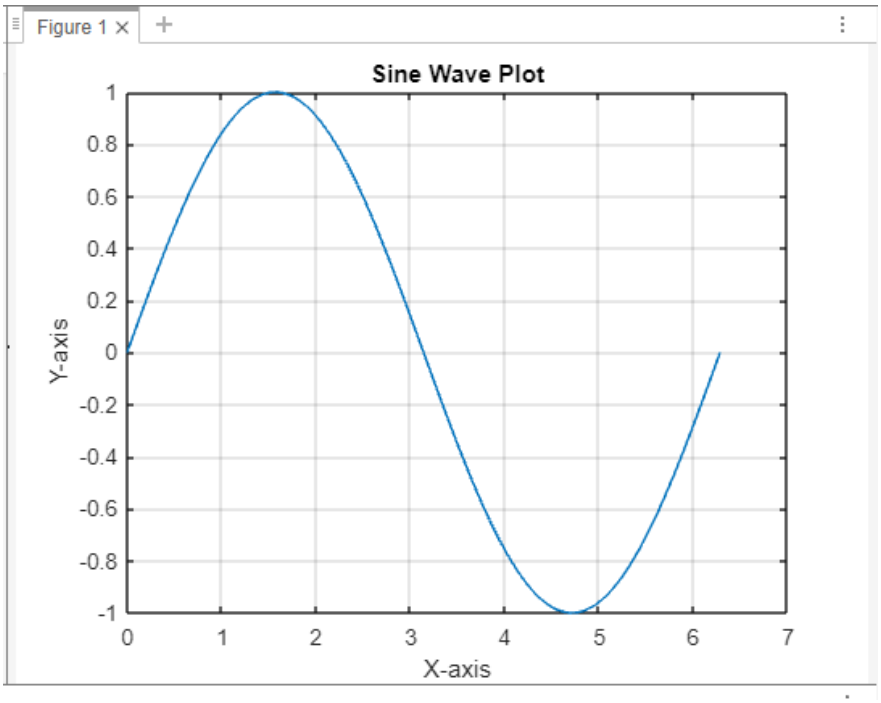
6. *Grid and Annotations*:

- Grid lines can be added to the plot using `grid on`. You can also add annotations, text, and arrows to highlight specific points or regions in the plot.

Code:

```
x = linspace(0, 2 * pi, 100);

y = sin(x);

plot(x, y);

xlabel('X-axis');
ylabel('Y-axis');
title('Sine Wave Plot');


grid on;
```

Output:



Conclusion: Thus, we have learned to use the Plot function in MATLAB.