Lab 15

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Python Code :
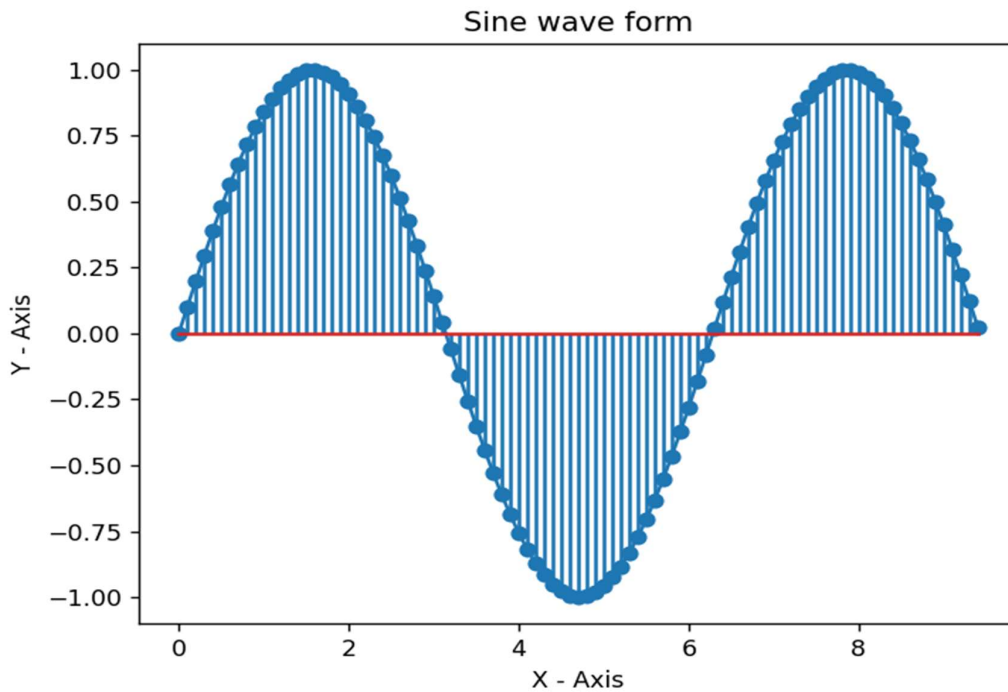
```python
# Plot sine wave

import numpy as np
import matplotlib.pyplot as plt
from scipy import signal


time = np.arange(0, 3*np.pi, 0.1)
amplitude = np.sin(time)

plt.plot(time, amplitude)

plt.xlabel("X - Axis")
plt.ylabel("Y - Axis")
plt.title("Sine wave form")

plt.stem(time, amplitude)
plt.show()
```

Sine wave form

```
# Task 2 : Use of SCIPY library

t = np.linspace(0, np.sin(time), 1000, endpoint=True)

# Plot the square wave
plt.plot(t, signal.square(2 * np.pi * 5 * t)*np.sin(t))

# Give x,y,title axis label
plt.xlabel('Time')
plt.ylabel('Amplitude')
plt.title('Square wave - 5 Hz sampled at 1000 Hz/sec')
plt.grid(True,which='both')

plt.axhline(y = 0, color = 'k')

# Display
plt.show()
```