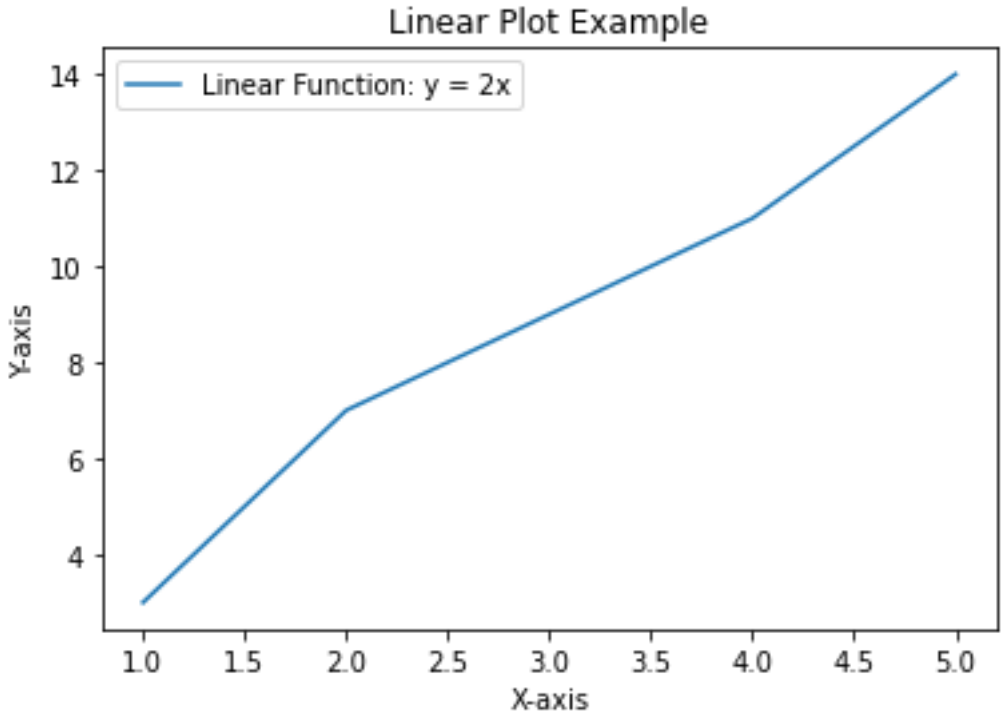
PROGRAM-6

6a) Write a Python program to illustrate Linear Plotting using Matplotlib

```
import matplotlib.pyplot as plt
def linear_plot():
# Sample data
    x = [1, 2, 3, 4, 5]
    y = [3, 7, 9, 11, 14]
    # Plotting the data
    plt.plot(x, y, label='Linear Function: y = 2x')
    # Adding labels and title
    plt.xlabel('X-axis')
    plt.ylabel('Y-axis')
    plt.title('Linear Plot Example')
    plt.legend()
    plt.show()
    # Call the function to generate the plot
linear_plot()
```

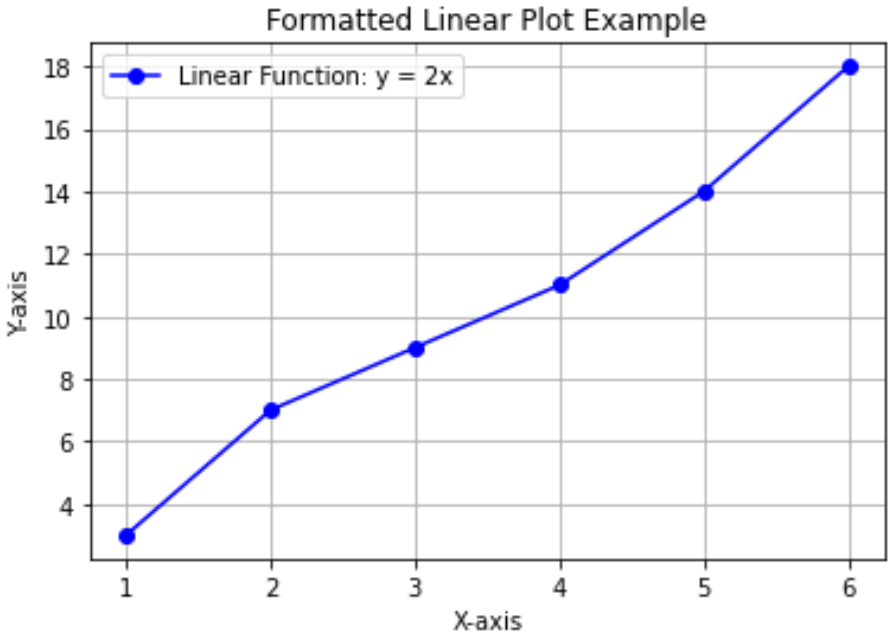
OUTPUT:



6b) Write a Python program to illustrate liner plotting with line formatting using Matplotlib

```
import matplotlib.pyplot as plt
def formatted_linear_plot():
# Sample data
    x = [1, 2, 3, 4, 5, 6]
    y = [3, 7, 9, 11, 14, 18]
    plt.plot(x, y, marker='o', linestyle='-', color='b', label='Linear Function: y = 2x')
    # Adding labels and title
    plt.xlabel('X-axis')
    plt.ylabel('Y-axis')
    plt.title('Formatted Linear Plot Example')
    plt.legend()
    plt.grid(True) # Add a grid for better readability
    plt.show()
# Call the function to generate the formatted linear plot
formatted_linear_plot()
```

OUTPUT:



PROGRAM-7

7) Write a Python program which explains uses of customizing seaborn plots with Aesthetic functions.

```
import seaborn as sns
import matplotlib.pyplot as plt
# Load a sample dataset
tips = sns.load_dataset("tips")
# Set the aesthetic style of the plot
sns.set(style="whitegrid")
# Create a scatter plot using Seaborn
sns.scatterplot(x="total_bill", y="tip", style="time", size="size", data=tips)
# Customize the plot further using Seaborn aesthetic functions
sns.despine() # Remove the top and right spines from the plot
# Set custom labels and title
plt.xlabel("Total Bill ($)")
plt.ylabel("Tip ($)")
plt.title("Scatter Plot of Total Bill vs Tip")
# Show the plot
plt.show()
```

OUTPUT: