Practical - 9

AIM

Generate different subplots from a given plot and color plot data.

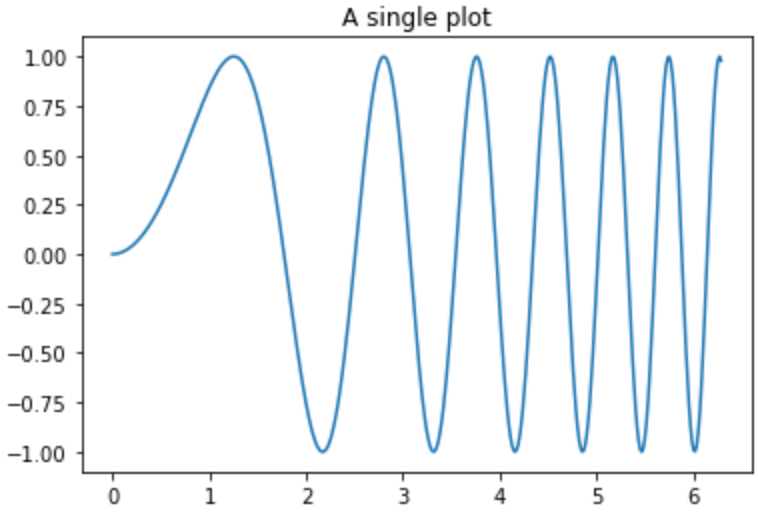
CODE & OUTPUT

In [3]:
```
import numpy as np
from matplotlib import pyplot as plt

# SAMPLE DATA
x = np.linspace(0, 2 * np.pi, 400)
y = np.sin(x ** 2)
```

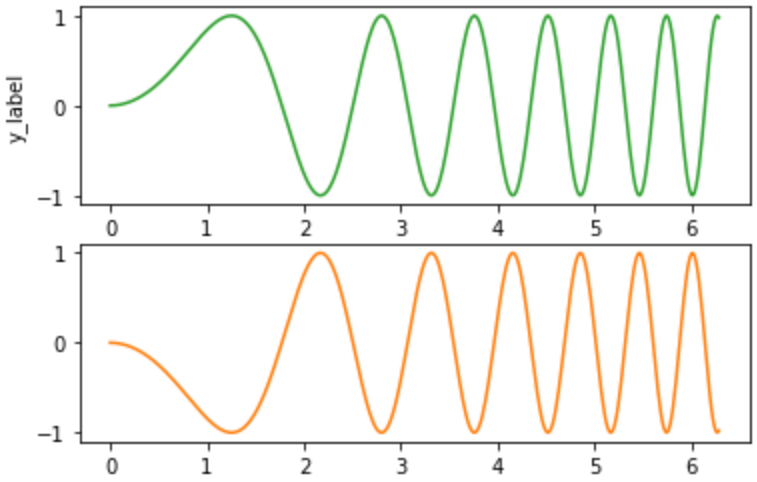
In [4]:
```
# A SINGLE SUBPLOT
fig, ax = plt.subplots()
ax.plot(x, y)
ax.set_title("A single plot")
```

Out[4]:
```
Text(0.5, 1.0, 'A single plot')
```



In [7]:
```
# subplots in stacked in vertical direction
fig, (axs1, axs2) = plt.subplots(2)
axs1.plot(x, y, "tab:green")
axs1.set(xlabel="x-label", ylabel="y_label")
axs2.plot(x, -y, "tab:orange")
```

Out[7]:
```
[<matplotlib.lines.Line2D at 0x21757cf61c0>]
```

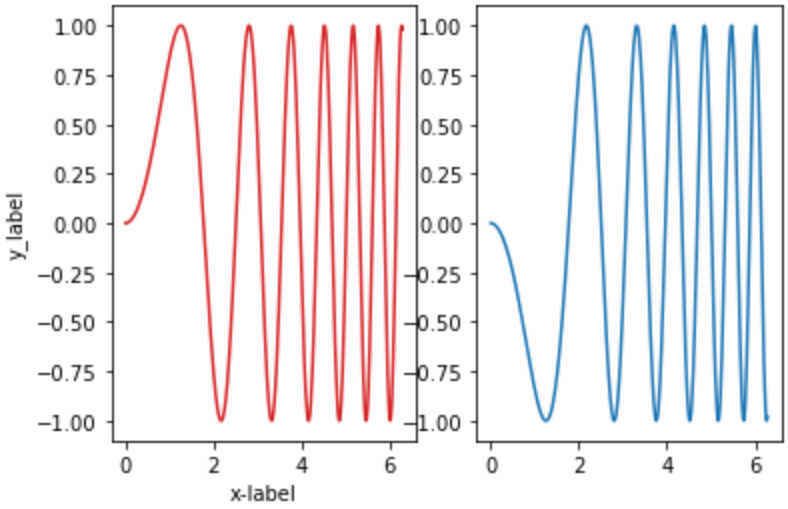


In [8]:

```
# subplots in stacked in horizontal direction
fig, (axs1, axs2) = plt.subplots(1, 2)
axs1.plot(x, y, "tab:red")
axs1.set(xlabel="x-label", ylabel="y_label")
axs2.plot(x, -y)
```

Out[8]:

```
[<matplotlib.lines.Line2D at 0x21758089700>]
```

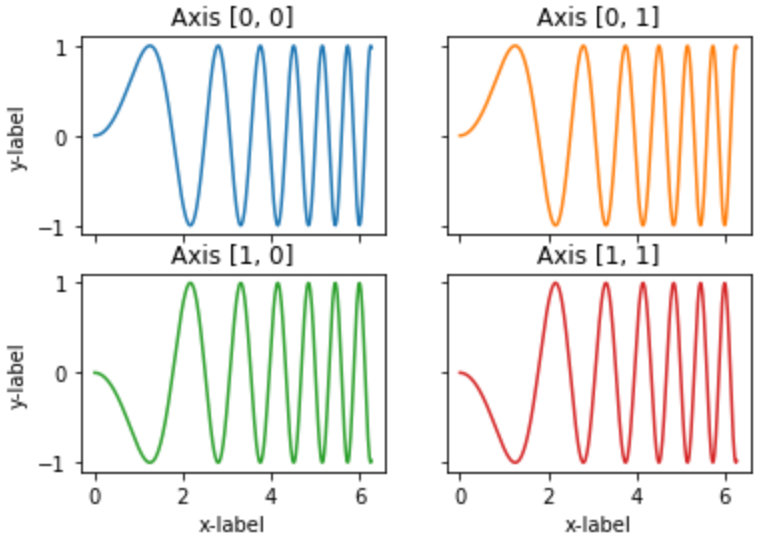


In [9]:

```
# Stacking subplots in two directions
fig, axs = plt.subplots(2, 2)
axs[0, 0].plot(x, y)
axs[0, 0].set_title('Axis [0, 0]')
axs[0, 1].plot(x, y, 'tab:orange')
axs[0, 1].set_title('Axis [0, 1]')
axs[1, 0].plot(x, -y, 'tab:green')
axs[1, 0].set_title('Axis [1, 0]')
axs[1, 1].plot(x, -y, 'tab:red')
axs[1, 1].set_title('Axis [1, 1]')

for ax in axs.flat:
    ax.set(xlabel='x-label', ylabel='y-label')

# Hide x labels and tick labels for top plots and y ticks for right plots.
for ax in axs.flat:
    ax.label_outer()
```


Axis [0, 0]
Axis [0, 1]
Axis [1, 0]
Axis [1, 1]
y-label
y-label
x-label
x-label
1
0
−1
0
2
4
6