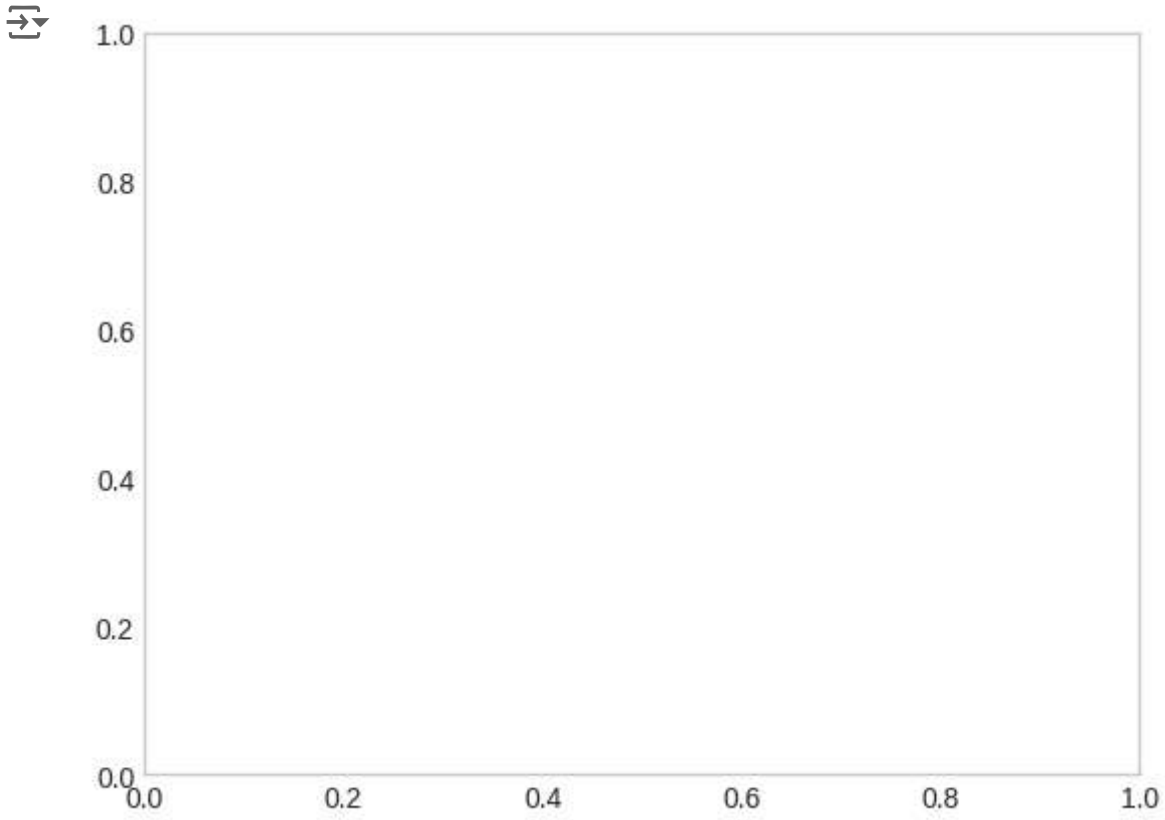
```
!pip install matplotlib==3.4
```

```
Collecting matplotlib==3.4
  Downloading matplotlib-3.4.0.tar.gz (37.1 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 37.1/37.1 MB 52.8 MB/s eta 0:00:00
  Preparing metadata (setup.py) ... done
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packa
Requirement already satisfied: numpy>=1.16 in /usr/local/lib/python3.10/dist-packages (f
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages
Requirement already satisfied: pyparsing>=2.2.1 in /usr/local/lib/python3.10/dist-packag
Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.10/dist-pa
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from
Building wheels for collected packages: matplotlib
  Building wheel for matplotlib (setup.py) ... done
  Created wheel for matplotlib: filename=matplotlib-3.4.0-cp310-cp310-linux_x86_64.whl s
  Stored in directory: /root/.cache/pip/wheels/27/ea/35/0964d59ed4c7270bbeabc79c0984b58c
Successfully built matplotlib
Installing collected packages: matplotlib
  Attempting uninstall: matplotlib
    Found existing installation: matplotlib 3.7.1
    Uninstalling matplotlib-3.7.1:
      Successfully uninstalled matplotlib-3.7.1
ERROR: pip's dependency resolver does not currently take into account all the packages t
lida 0.0.10 requires fastapi, which is not installed.
lida 0.0.10 requires kaleido, which is not installed.
lida 0.0.10 requires python-multipart, which is not installed.
lida 0.0.10 requires uvicorn, which is not installed.
mizani 0.9.3 requires matplotlib>=3.5.0, but you have matplotlib 3.4.0 which is incompat
plotnine 0.12.4 requires matplotlib>=3.6.0, but you have matplotlib 3.4.0 which is incom
Successfully installed matplotlib-3.4.0
```

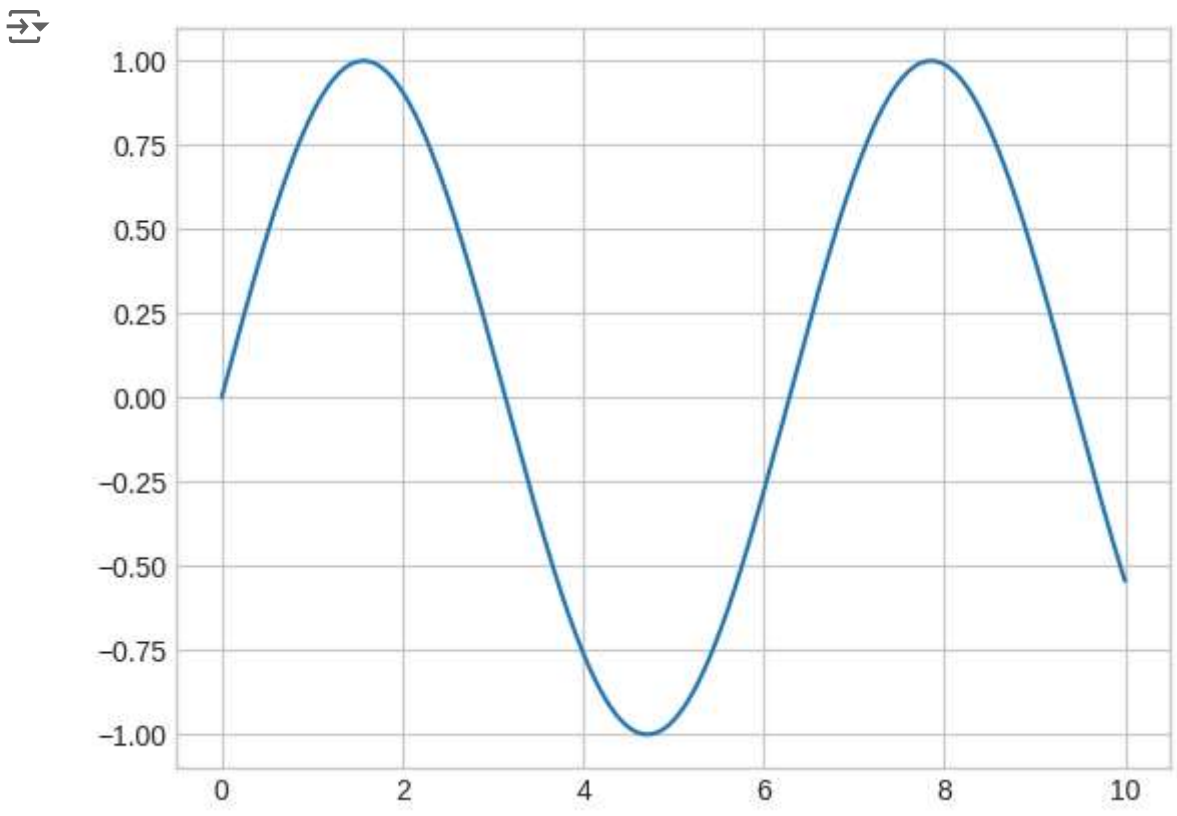
```
from matplotlib import pyplot  as plt
plt.style.use("seaborn-whitegrid")
import numpy as np
print("step 1")
```

```
step 1
<ipython-input-4-18de711d1c7d>:2: MatplotlibDeprecationWarning: The seaborn styles shipp
  plt.style.use("seaborn-whitegrid")
```

```
fig = plt.figure()
ax = plt.axes()
ax.grid()
```

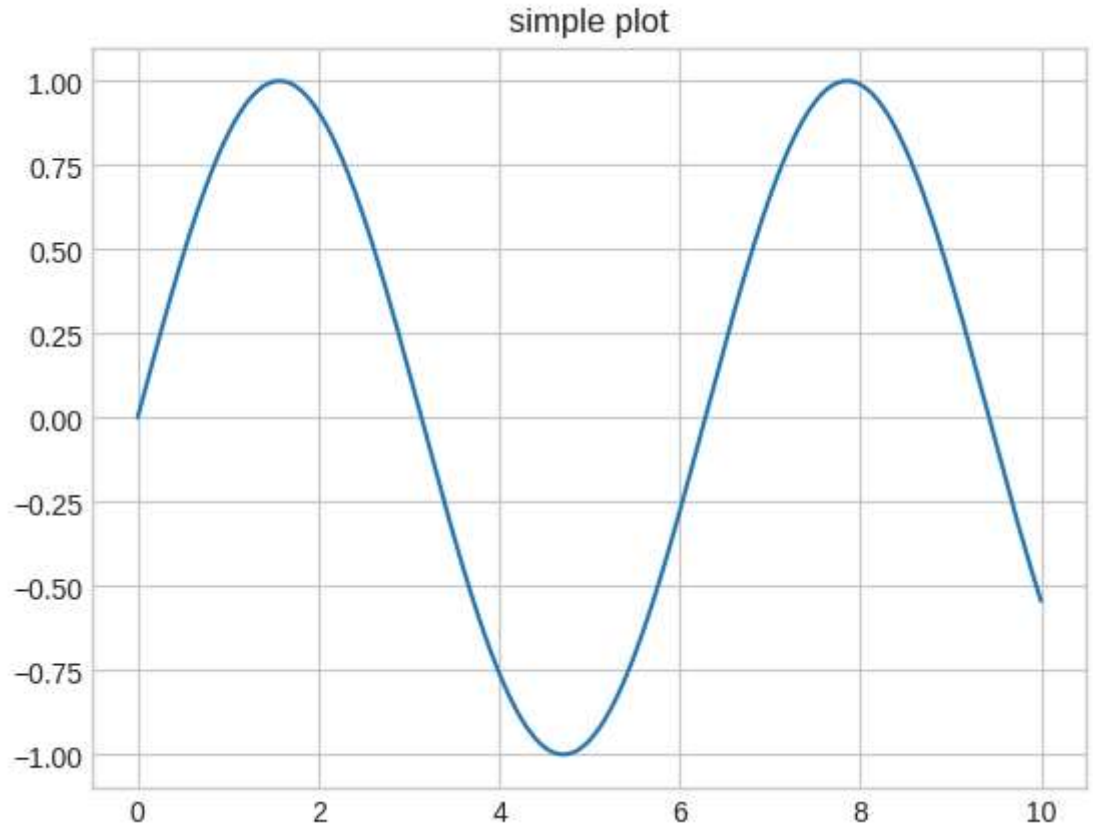



```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x));
```



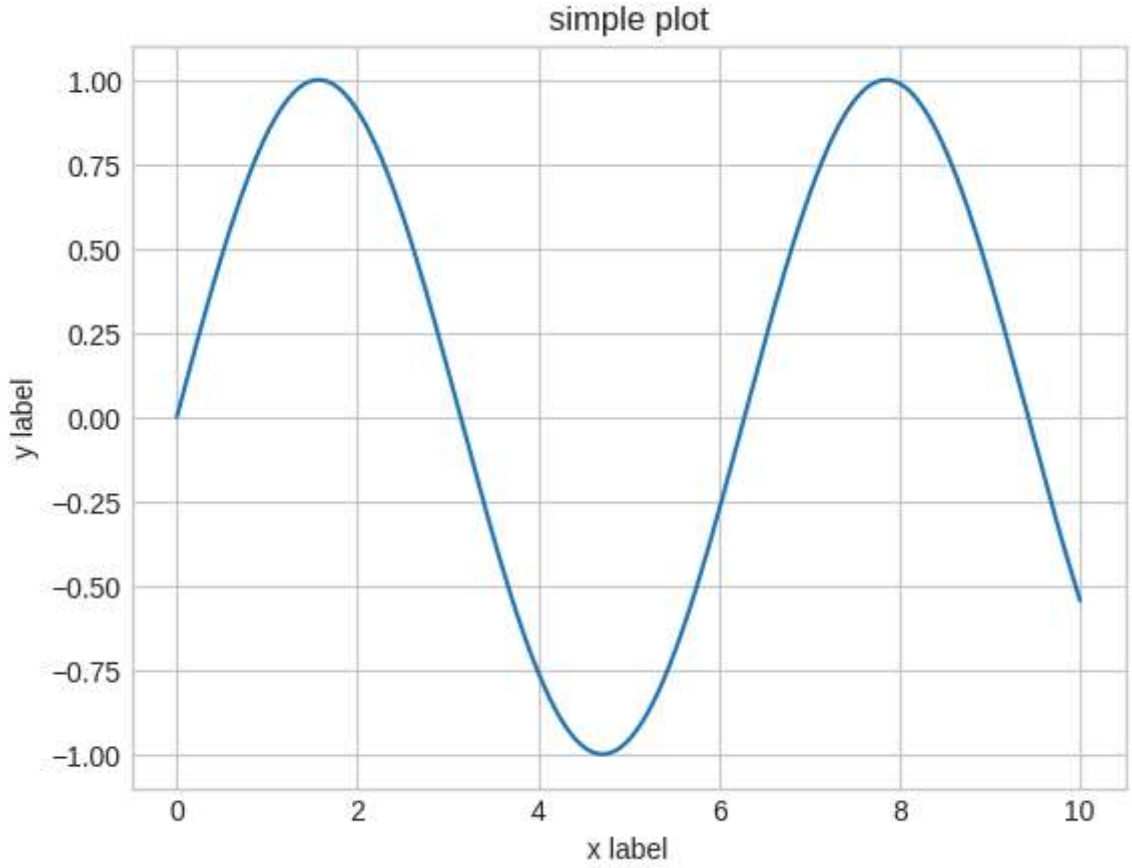
```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x))
ax.set_title('simple plot')
```

```
Text(0.5, 1.0, 'simple plot')
```

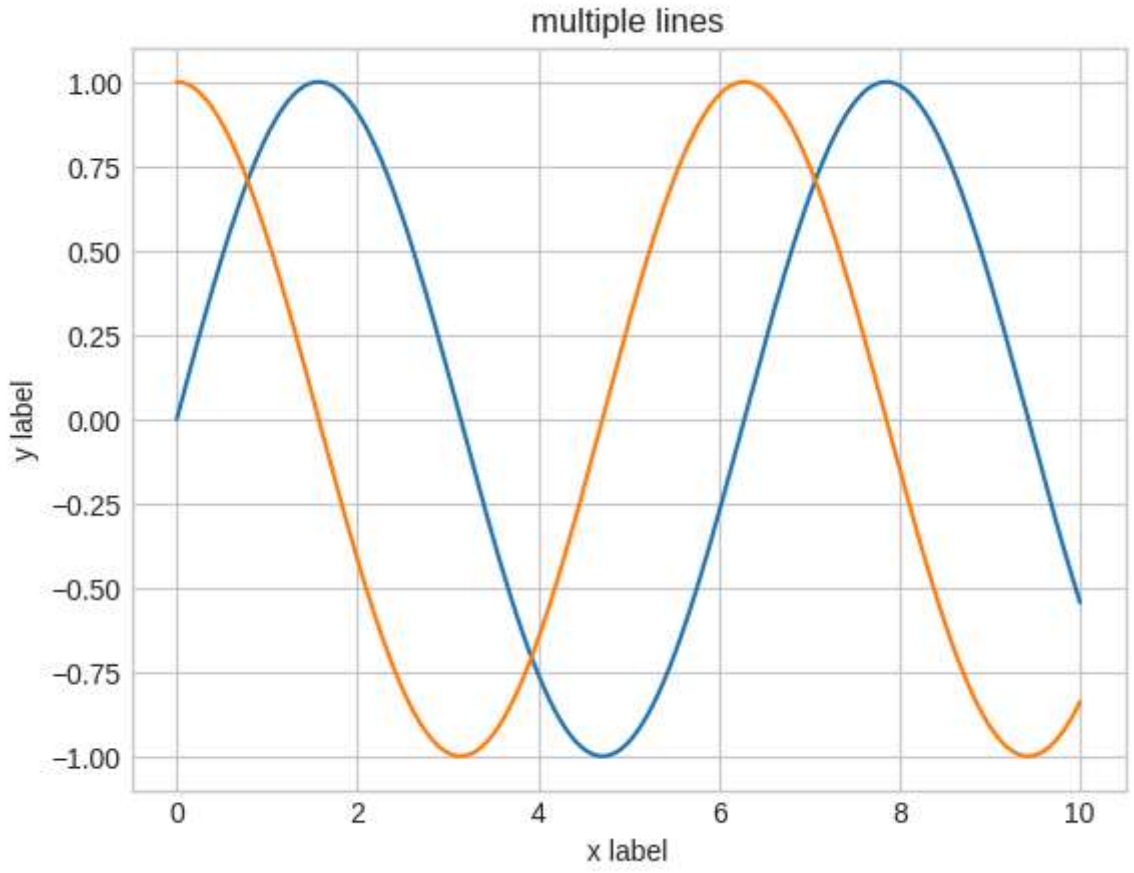



```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x))
ax.set_title('simple plot')
ax.set_xlabel('x label')
ax.set_ylabel('y label')
```

```
Text(0, 0.5, 'y label')
```

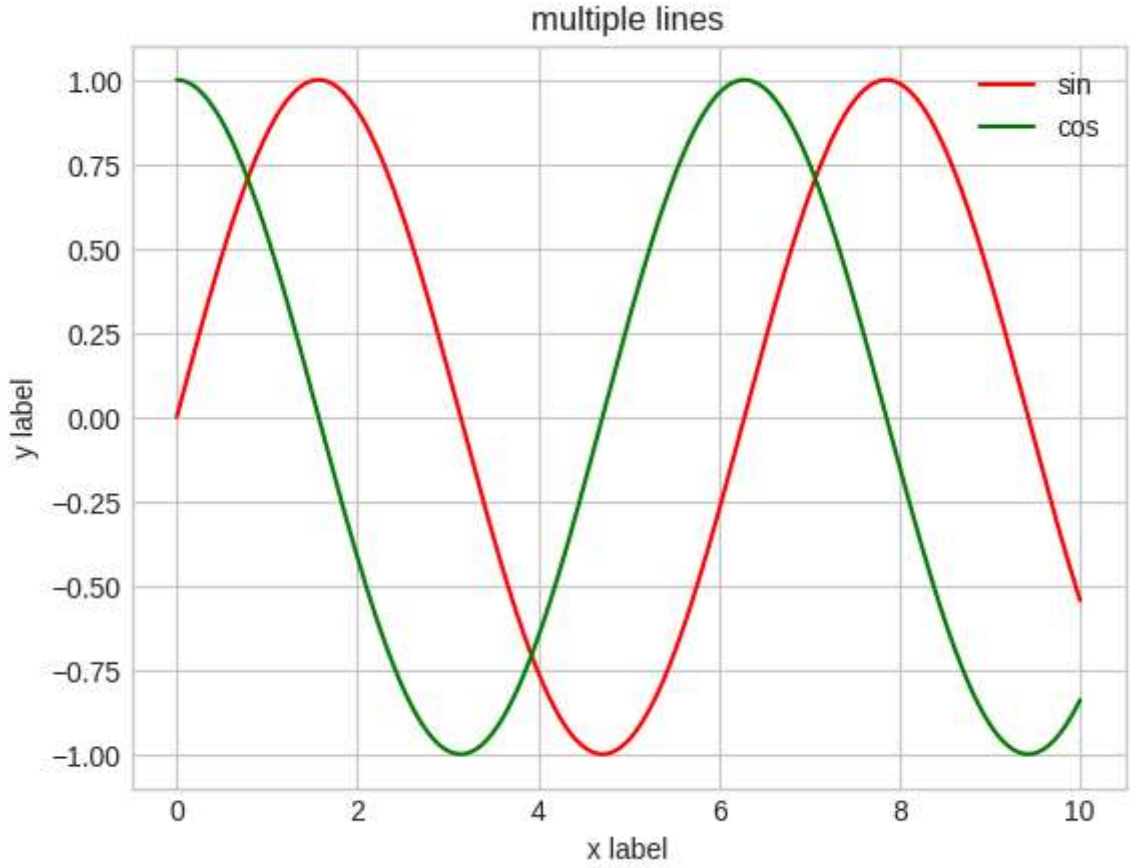



```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x))
ax.plot(x,np.cos(x))

ax.set_title('multiple lines')
ax.set_xlabel('x label')
ax.set_ylabel('y label')
plt.show()
```



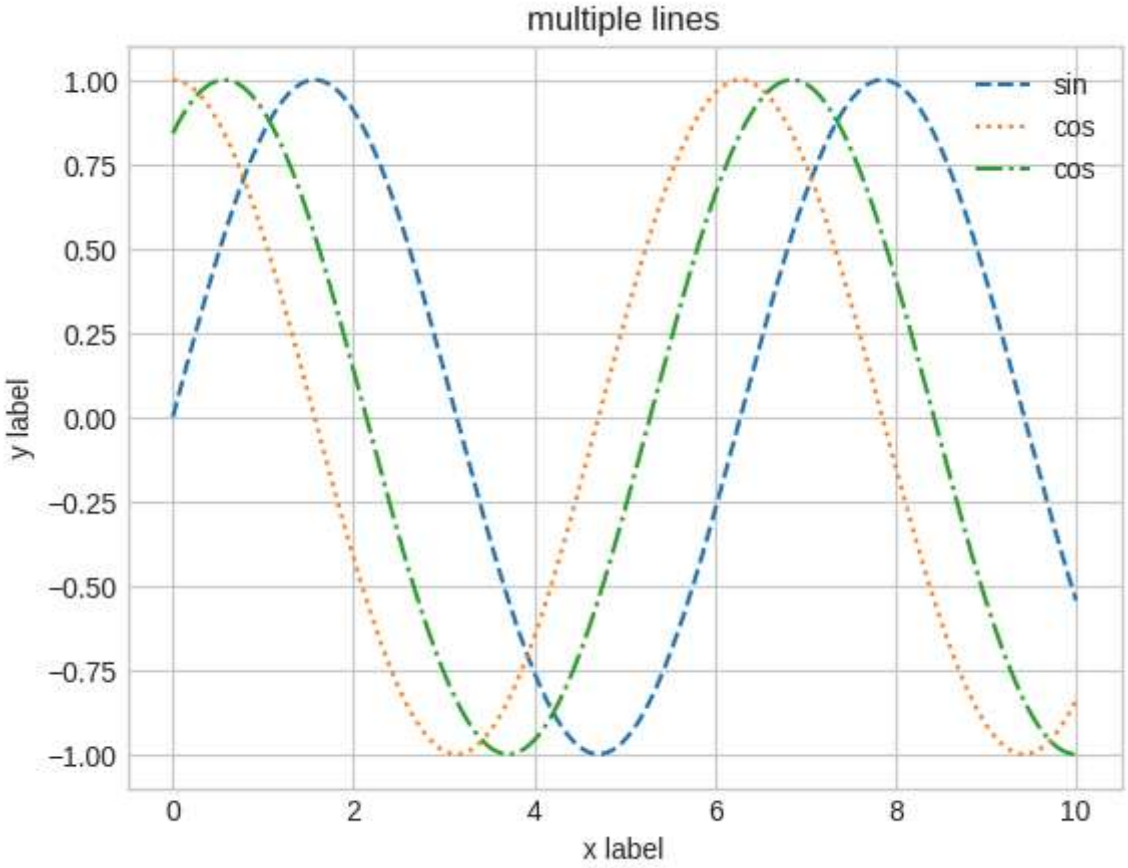

```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x), label='sin', color = 'red')
ax.plot(x,np.cos(x), label='cos', color = 'g')

ax.set_title('multiple lines')
ax.set_xlabel('x label')
ax.set_ylabel('y label')
ax.legend()
```

```
<matplotlib.legend.Legend at 0x7a94e6d71240>
```



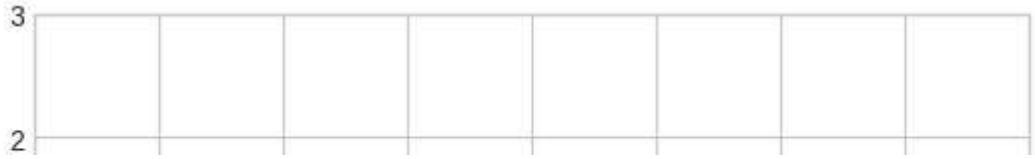

```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x), label='sin', linestyle = 'dashed')
ax.plot(x,np.cos(x), label='cos', linestyle = 'dotted')
ax.plot(x,np.sin(x+1), label='cos', linestyle = 'dashdot')
ax.set_title('multiple lines')
ax.set_xlabel('x label')
ax.set_ylabel('y label')
ax.legend()
```

```
<matplotlib.legend.Legend at 0x7a94e6d2c280>
```




```
fig = plt.figure()
ax = plt.axes()
x=np.linspace(0,10,1000)
ax.plot(x,np.sin(x))
ax.set_xlim(-5, 15)
ax.set_ylim(-3, 3)
```

```
(-3.0, 3.0)
```




```
fig, axs = plt.subplots(2, 2, figsize=(10, 6))
```