Session8

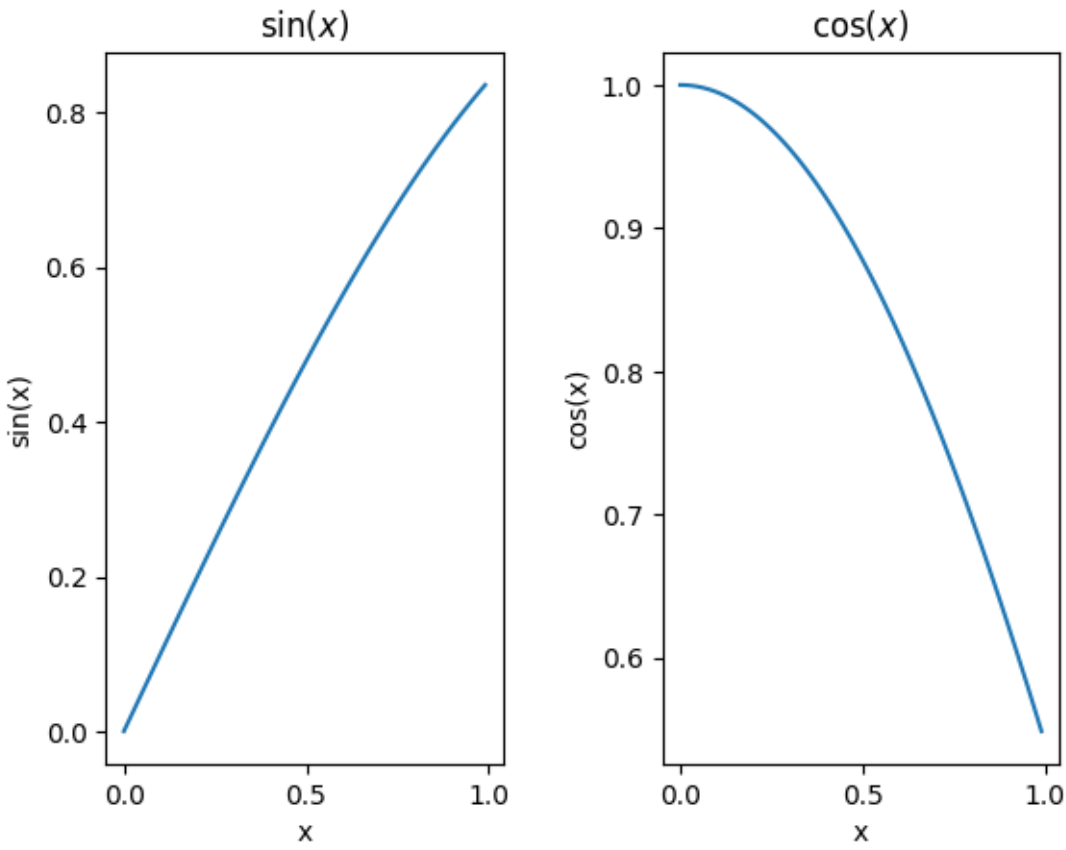
February 5, 2024

1. Create a Jupyter notebook, import matplotlib.
2. Write cells that 1) create an array x ranging from [0,1] in 100 steps and \2) that defines functions that return sin(x) and cos(x).
3. In a new cell use to create a multipanel plot (1 row, 2 columns), plotting sin(x) vs. x in the left panel and cos(x) vs. x in the right panel.
4. Label the panels with sin(x) and cos(x), and save the figure as a PDF.

[8]:
```
import matplotlib.pyplot as plt
import numpy as np
```

[18]:
```
x = np.arange(0, 1, 1/100)

def sinx(x):
    return np.sin(x)

def cosx(x):
    return np.cos(x)
```

[21]:
```
fig, axes = plt.subplots(1, 2)

sin = sinx(x)
cos = cosx(x)

axes[0].plot(x,sin)
axes[0].set_xlabel('x')
axes[0].set_ylabel('sin(x)')
axes[0].set_title(r'$\sin(x)$')

axes[1].plot(x,cos)
axes[1].set_xlabel('x')
axes[1].set_ylabel('cos(x)')
axes[1].set_title(r'$\cos(x)$')

fig.subplots_adjust(wspace=0.4)

fig.savefig('multi_x.pdf')
```


sin(x)
0.8
0.6
0.4
0.2
0.0
sin(x)
0.0
0.5
1.0
x
cos(x)
1.0
0.9
0.8
0.7
0.6
cos(x)
0.0
0.5
1.0
x