Homework 1

The topic of the homework

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Wednesday 19th June, 2019

Abstract

This article contains problem prompts, calculations, and results from homework 1 for ECE 2390.

Preamble to the exercises goes here.

1 Exercise 1

Pick a function and plot it.

```
import numpy as np
import matplotlib.pyplot as plt

x = np.linspace( -2 * np.pi, 2 * np.pi, 1000)
y = np.sin(x)


plt.plot(x, y, label='sin(x)')
plt.plot(x, np.cos(x), label='cos(x)')
plt.legend()
plt.ylabel('y')
plt.xlabel('x')
plt.title('y vs. x')
plt.ylim([ -2, 2])
plt.xlim([ -2 * np.pi, 2 * np.pi])
plt.grid()
plt.show()
```

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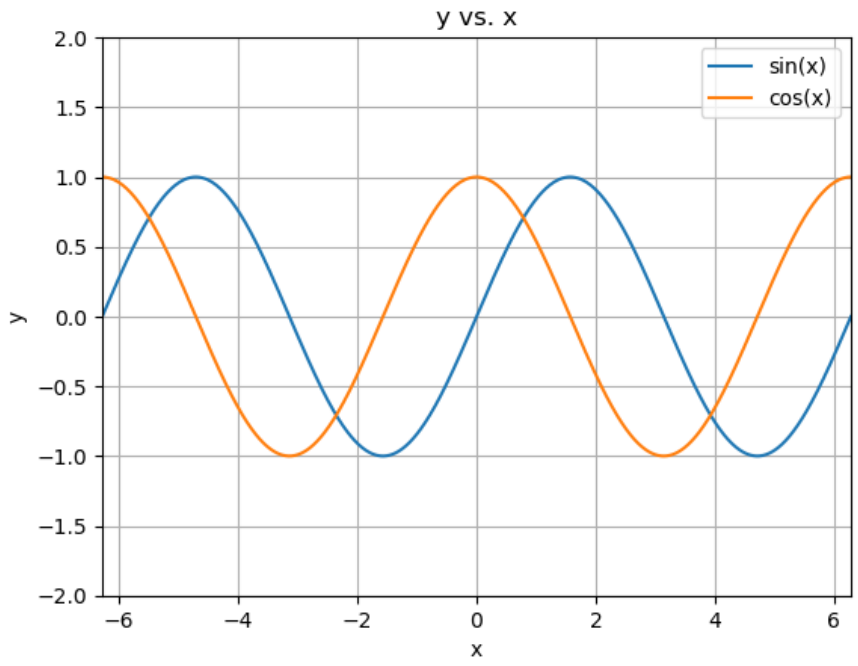

2 Exercise 2

Show the function as a Data Frame.

```
import pandas as pd

mat = np.column_stack((x, y))

df = pd.DataFrame(mat, columns = ['x', 'y'])

df.head()
```

	x	y
0	-6.283185	2.449294e-16
1	-6.026729	2.536546e-01
2	-5.770272	4.907176e-01
3	-5.513816	6.956826e-01
4	-5.257359	8.551428e-01

Original article

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