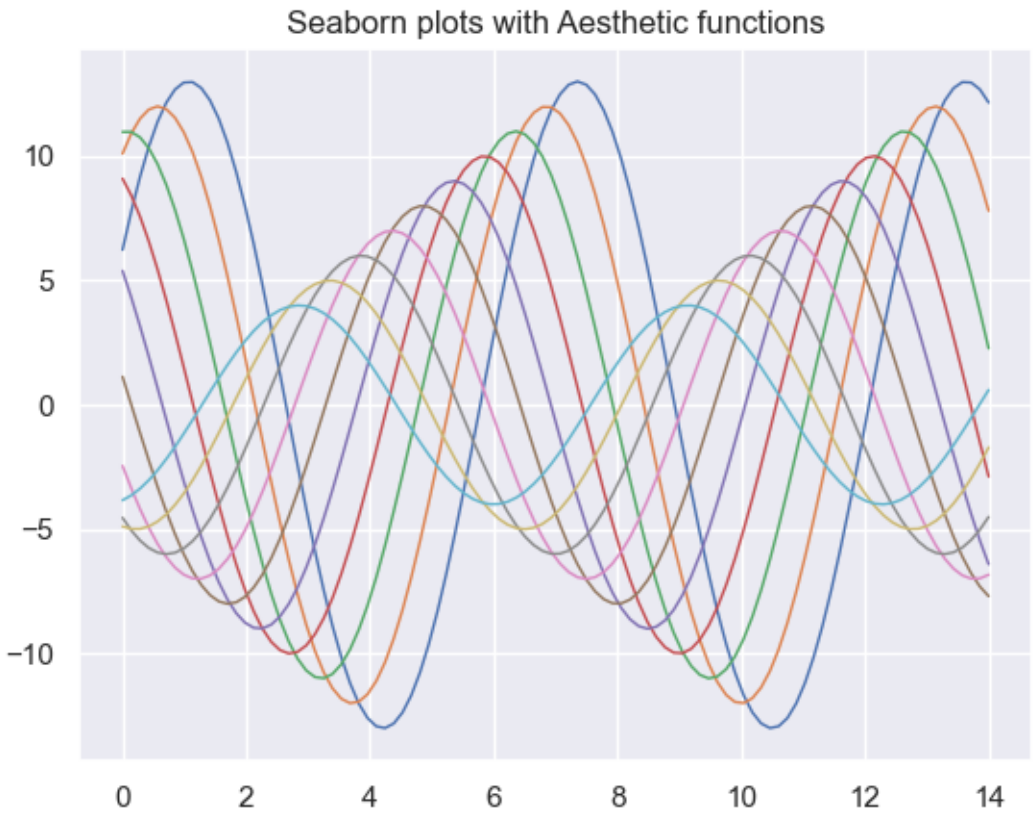
Aesthetic Functions

March 20, 2024

0.1 Seaborn plots with Aesthetic Functions

[1]:
```
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

def sinplot(n = 10) :
    # np.linspace() creates an array of evenly spaced numbers over a specified␣
 ↪range
    x = np.linspace(0, 14, 100) # np.linspace(start, stop, numOfSamples)
    for i in range(1, n + 1) : # looping from 1 to n
        plt.plot(x, np.sin(x + i * 0.5) * (n + 4 - i))

# 'x + i * 0.5' introduces a phase shift to the sine wave. It shifts the entire␣
 ↪wave horizontally by an amount that depends
# on 'i'. '*(n + 2 - i)' modifies the amplitude of the wave

sns.set_theme() # sets default Seaborn theme

# rc stands for run-time configuration that allows customization of various␣
 ↪aspects of the plot's appearance
# such as line width, font size, colors, and more
sns.set_context("notebook", font_scale = 1,
                rc = {
                    "lines.linewidth" : 1,
                    "lines.linestyle" : '--'
                }
               )

sinplot()

plt.title('Seaborn plots with Aesthetic functions')

plt.show()
```



[2]:
```
import numpy as np

arr = np.linspace(0, 14, 100)
print(arr)
```

```
[ 0.          0.14141414  0.28282828  0.42424242  0.56565657  0.70707071
  0.84848485  0.98989899  1.13131313  1.27272727  1.41414141  1.55555556
  1.6969697   1.83838384  1.97979798  2.12121212  2.26262626  2.4040404
  2.54545455  2.68686869  2.82828283  2.96969697  3.11111111  3.25252525
  3.39393939  3.53535354  3.67676768  3.81818182  3.95959596  4.1010101
  4.24242424  4.38383838  4.52525253  4.66666667  4.80808081  4.94949495
  5.09090909  5.23232323  5.37373737  5.51515152  5.65656566  5.7979798
  5.93939394  6.08080808  6.22222222  6.36363636  6.50505051  6.64646465
  6.78787879  6.92929293  7.07070707  7.21212121  7.35353535  7.49494949
  7.63636364  7.77777778  7.91919192  8.06060606  8.2020202   8.34343434
  8.48484848  8.62626263  8.76767677  8.90909091  9.05050505  9.19191919
  9.33333333  9.47474747  9.61616162  9.75757576  9.8989899  10.04040404
 10.18181818 10.32323232 10.46464646 10.60606061 10.74747475 10.88888889
 11.03030303 11.17171717 11.31313131 11.45454545 11.5959596  11.73737374
 11.87878788 12.02020202 12.16161616 12.3030303  12.44444444 12.58585859
 12.72727273 12.86868687 13.01010101 13.15151515 13.29292929 13.43434343
```

```
 13.57575758 13.71717172 13.85858586 14.        ]
```

[ ]: