import matplotlib.pyplot as plt

import numpy as np

def sigmoid(x):

s=1/(1+np.exp(-x))

ds=s\*(1-s)

return s,ds

x=np.arange(-6,6,0.01)

sigmoid(x)

fig, ax = plt.subplots(figsize=(9, 5))

ax.spines['left'].set\_position('center')

ax.spines['right'].set\_color('none')

ax.spines['top'].set\_color('none')

ax.xaxis.set\_ticks\_position('bottom')

ax.yaxis.set\_ticks\_position('left')

ax.plot(x,sigmoid(x)[0], color="#307EC7", linewidth=3, label="sigmoid")

ax.plot(x,sigmoid(x)[1], color="#9621E2", linewidth=3, label="derivative")

ax.legend(loc="upper right", frameon=False)

fig.show()

'''

Observations:

The sigmoid function has values between 0 to 1.

The output is not zero-centered.

Sigmoids saturate and kill gradients.

At the top and bottom level of sigmoid functions, the curve changes slowly, the derivative

curve above shows that the slope or gradient it is zero.

'''