import numpy as np

import matplotlib.pyplot as plt

def unit\_step(n):

signal = np.heaviside(n, 1)

plt.plot(n, signal, label="Unit Step Signal")

plt.title("Unit Step Signal")

plt.xlabel("n")

plt.ylabel("Amplitude")

plt.grid(True)

plt.legend()

plt.show()

return signal

def unit\_impulse(n):

signal = np.zeros\_like(n)

signal[n == 0] = 1

plt.stem(n, signal, basefmt=" ", use\_line\_collection=True)

plt.title("Unit Impulse Signal")

plt.xlabel("n")

plt.ylabel("Amplitude")

plt.grid(True)

plt.show()

return signal

def ramp\_signal(n):

signal = np.maximum(n, 0)

plt.plot(n, signal, label="Ramp Signal")

plt.title("Ramp Signal")

plt.xlabel("n")

plt.ylabel("Amplitude")

plt.grid(True)

plt.legend()

plt.show()

return signal

n = np.arange(-10, 11)

unit\_step(n)

unit\_impulse(n)

ramp\_signal(n)