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# Simple demo of setting the DAC value up and down through its entire range
# of values.
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import board
import busio
import time

import adafruit_mcp4725

# Initialize I2C bus.
i2c = busio.I2C(board.SCL, board.SDA)
# Initialize MCP4725.
dac = adafruit_mcp4725.MCP4725(i2c, address=0x60)
# Optionally you can specify a different address if you override the A0 pin.
#amp = adafruit_max9744.MAX9744(i2c, address=0x63)

"""
# There are a three ways to set the DAC output, you can use any of these:
dac.value = 65535 # Use the value property with a 16-bit number just like
                  # the AnalogOut class. Note the MCP4725 is only a 12-bit
                  # DAC so quantization errors will occur. The range of
                  # values is 0 (minimum/ground) to 65535 (maximum/Vout).

dac.raw_value = 4095 # Use the raw_value property to directly read and write
                    # the 12-bit DAC value. The range of values is
                    # 0 (minimum/ground) to 4095 (maximum/Vout).

dac.normalized_value = 1.0 # Use the normalized_value property to set the
                           # output with a floating point value in the range
                           # 0 to 1.0 where 0 is minimum/ground and 1.0 is
                           # maximum/Vout.
"""

# Main loop will go up and down through the range of DAC values forever.
while True:
    # Go up the 12-bit raw range.
    print('Going up 0-10.0V...')
    for i in range(4095):
        dac.raw_value = i
        time.sleep(2)
    # Go back down the 12-bit raw range.
    print('Going down 10.0-0V...')
    for i in range(4095, -1, -1):
        dac.raw_value = i
        time.sleep(2)

```