import RPi.GPIO as GPIO

import time

def sendSignal() :

for k in range(4):

GPIO.output(pins[k], signal[step][k])

GPIO.setmode(GPIO.BCM)

pins = [12,16,20,21] #IN1, IN2, IN3, IN4

for p in pins:

GPIO.setup(p, GPIO.OUT)

GPIO.output(p, GPIO.LOW)

FULL\_STEP = 4

HALF\_STEP = 8

signal\_full = [

[GPIO.LOW, GPIO.LOW, GPIO.LOW, GPIO.HIGH],

[GPIO.LOW, GPIO.LOW, GPIO.HIGH, GPIO.LOW],

[GPIO.LOW, GPIO.HIGH, GPIO.LOW, GPIO.LOW],

[GPIO.HIGH, GPIO.LOW, GPIO.LOW, GPIO.LOW]

]

signal\_half = [

[GPIO.HIGH, GPIO.LOW, GPIO.LOW, GPIO.HIGH],

[GPIO.HIGH, GPIO.LOW, GPIO.LOW, GPIO.LOW],

[GPIO.HIGH, GPIO.HIGH, GPIO.LOW, GPIO.LOW],

[GPIO.LOW, GPIO.HIGH, GPIO.LOW, GPIO.LOW],

[GPIO.LOW, GPIO.HIGH, GPIO.HIGH, GPIO.LOW],

[GPIO.LOW, GPIO.LOW, GPIO.HIGH, GPIO.LOW],

[GPIO.LOW, GPIO.LOW, GPIO.HIGH, GPIO.HIGH],

[GPIO.LOW, GPIO.LOW, GPIO.LOW, GPIO.HIGH],

]

#stepping mode and direction

steps = FULL\_STEP

signal = signal\_full

clockwise = True

try:

# 1 cycle = 4 step for FULL

# 1 cycle = 8 step for HALF

# 1 rev = 512 cycle

for i in range(128):

if clockwise :

for step in range(steps):

sendSignal()

time.sleep(0.01)

else :

for step in reversed(range(steps)):

sendSignal()

time.sleep(0.01)

except KeyboardInterrupt:

print("\nInterrupted!")

finally:

print ("\nValve - OFF\n")

GPIO.cleanup()