#include "mbed.h"

PwmOut PWM1(D3);

DigitalIn Ain(D2);

BusOut display(D6, D7, D9, D10, D11, D5, D4, D8);

char table[10] = {0x3F, 0x06, 0x5B, 0x4F, 0x66, 0x6D, 0x7D, 0x07, 0x7F, 0x6F};

int main() {

PWM1.period(1);

PWM1 = 0.75;

int change=0;

int lastSignal=0;

float cnt0=0;

float cnt1=0;

float dutyRatio;

int num1, num2;

int start=0;

while(!start) {

if(lastSignal == ! Ain) start = !start;

lastSignal = Ain;

wait(0.001);

}

while(start) {

if(lastSignal == ! Ain) change++;

if(change==2) start = !start;

if(Ain) cnt1++;

else cnt0++;

lastSignal = Ain;

wait(0.001);

}

dutyRatio=cnt1/(cnt0+cnt1);

num1=dutyRatio\*10;

num2=dutyRatio\*100;

num2%=10;

while(1) {

display=0xBF;

wait(1);

display=table[num1];

wait(1);

display=table[num2];

wait(1);

}

}

#include "mbed.h"

AnalogOut Aout(DAC0\_OUT);

DigitalIn Ain(D2);

BusOut display(D6, D7, D9, D10, D11, D5, D4, D8);

char table[10] = {0x3F, 0x06, 0x5B, 0x4F, 0x66, 0x6D, 0x7D, 0x07, 0x7F, 0x6F};

char tableDP[10] = {0xBF, 0x86, 0xDB, 0xCF, 0xE6, 0xED, 0xFD, 0x87, 0xFF, 0xDF};

int main() {

int change;

int lastSignal;

float cnt0,cnt1;

float period, freq;

int num1, num2, num3, num4, num5;

int start;

float i;

while(1){

for( i=0; i<2; i+=0.005 ){

Aout = 0.5 + 0.5\*sin(i\*3.14159);

if(!start) {

if(lastSignal == !Ain) start = !start;

lastSignal = Ain;

} else if(start) {

if(lastSignal == ! Ain) change++;

if(change==2) start = !start;

if(Ain) cnt1++;

else cnt0++;

lastSignal = Ain;

}

wait(0.0001);

}

if(change==2) {

period=0.0001\*(cnt0+cnt1);

freq=1/period;

num1=freq/10;

num2=(int)freq%10;

num3=freq\*10;

num3%=10;

num4=freq\*100;

num4%=10;

num5=freq\*1000;

num5%=10;

if(num5>=5) num4++;

display=table[num1];

wait(1);

display=tableDP[num2];

wait(1);

display=table[num3];

wait(1);

display=table[num4];

wait(1);

change=0;

cnt0=0; cnt1=0;

}

}

}