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\* HW1 \*

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#!/bin/sh

//paths of all LEDs

LED0=/sys/class/leds/beaglebone:green:usr0/brightness

LED1=/sys/class/leds/beaglebone:green:usr1/brightness

LED2=/sys/class/leds/beaglebone:green:usr2/brightness

LED3=/sys/class/leds/beaglebone:green:usr3/brightness

//close all LEDs

echo "0" > $LED0

echo "0" > $LED1

echo "0" > $LED2

echo "0" > $LED3

//light LEDs in order

while true;

do

echo "1" > $LED0

sleep 1

echo "0" > $LED0

echo "1" > $LED1

sleep 1

echo "0" > $LED1

echo "1" > $LED2

sleep 1

echo "0" > $LED2

echo "1" > $LED3

sleep 1

echo "0" > $LED3

echo "1" > $LED2

sleep 1

echo "0" > $LED2

echo "1" > $LED1

sleep 1

echo "0" > $LED1

done

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\* HW2 \*

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#include<stdlib.h>

#include<stdio.h>

#include<time.h>

#include<string.h>

FILE\* f;

**//function: ctz() is for closing all LEDs**

void ctz(){

char r0[100]="/sys/class/leds/beaglebone:green:usr0/brightness";

char r1[100]="/sys/class/leds/beaglebone:green:usr1/brightness";

char r2[100]="/sys/class/leds/beaglebone:green:usr2/brightness";

char r3[100]="/sys/class/leds/beaglebone:green:usr3/brightness";

f=fopen(r0,"w");

if(f==NULL)

exit(EXIT\_FAILURE);

fprintf(f,"0");

fclose(f);

f=fopen(r1,"w");

if(f==NULL)

exit(EXIT\_FAILURE);

fprintf(f,"0");

fclose(f);

f=fopen(r2,"w");

if(f==NULL)

exit(EXIT\_FAILURE);

fprintf(f,"0");

fclose(f);

f=fopen(r3,"w");

if(f==NULL)

exit(EXIT\_FAILURE);

fprintf(f,"0");

fclose(f);

}

void delay(int milliseconds);

**//main function**

int main(int argc, char\* argv[]){

ctz(); //close all LEDs

int st=1; //lighting direction of LEDs (usr0->3 when st=1; usr3->0 when st=0)

char a[2]="0", b[2]="1", c[2]="2", d[2]="3"; //string arrays for changing the path of LEDs

int i=0;

while(1){

char route1[100] = "/sys/class/leds/beaglebone:green:usr", //path 1

route2[100] = "/brightness"; //path2

switch(i){ //selecting the lighting LEDs according to the value of i

case 0:f=fopen( strcat( strcat(route1,a), route2 ) ,"w");break;

case 1:f=fopen( strcat( strcat(route1,b), route2 ) ,"w");break;

case 2:f=fopen( strcat( strcat(route1,c), route2 ) ,"w");break;

case 3:f=fopen( strcat( strcat(route1,d), route2 ) ,"w");break;

default: break;

}

if(f==NULL)

exit(EXIT\_FAILURE);

fprintf(f, "1"); //light up LED

fclose(f);

delay(1000);

f = fopen( route1,"w" );

if(f == NULL)

exit(EXIT\_FAILURE);

fprintf(f,"0"); //close LED

fclose(f);

if(i==3) //deciding the direction of LEDs

st=0;

else if(i==0)

st=1;

if(st==1)

i++;

else

i--;

}

return EXIT\_SUCCESS;

}

void delay(int milliseconds){

long pause;

clock\_t now,then;

pause = milliseconds\*(CLOCKS\_PER\_SEC/1000);

now = then = clock();

while( (now-then)<pause )

now = clock();

}