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EE319K Professor Gerstlauer

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Home Work 3

#define test1 0xF0;

#define test2 0x84;

#define test3 0x01;

#define test4 0xAA;

#include <stdio.h>;

void main(void)

{

unsigned char Evenbit, Oddbit, counter, num, lt, EOToggle;

signed short Compare; //perform compare of even/odd bits in this variable

Evenbit = 0;

Oddbit = 0;

lt = 0; //Initialize LED register

EOToggle = 1; //EOToggle, toggles between odd/even bits. 1 = Odd

num = test1; //Input test number here

for(counter = 8; counter > 0; counter--){

if(num >= 128){

if(EOToggle <= 0){ //If Toggle is set to even value&leading bit is a 1

//Increment app. variable

Evenbit++;

EOToggle = 1;

} else {

Oddbit++;

EOToggle = 0;

}

} else {

if(EOToggle <= 0) { //If leading bit is a 0, toggle EOToggle to next bit

EOToggle = 1;

} else {

EOToggle = 0;

}

}

num = num << 1;

}

Compare = Evenbit - Oddbit;

if(Compare == 0) {

lt = lt || 0x10;

printf("LightRegister is 0x%x0\n",lt);

printf("LED is on\n");

}else {

lt = lt & 0xEF;

printf("LightRegister is 0x%x0\n",lt);

printf("LED is off\n");

}

}