```c
/*Authors: Daniel Takyi & Dwijen Kapadia*/
/*Filename: main.c*/


#include <stdint.h>
#include "stm32f10x.h"
#include "clocks.h"
#include "pwm.h"
#include "sensors.h"



void delay(uint32_t count)//value of 6000 gives approximately 1ms of delay
{
        int i = 0;
        for(i = 0; i < count; i++)
        {
        }
}


int main()
{
        clockInit();

        pwmInit();

        RIGHTsense_init();

        LINEsense_init();

        FRONTsense_init();


        while((GPIOA->IDR & 0x1) != 0x1)
        {}

        int j;
        int line;        // line count
        int     targetNO = 0;    // number of targets recognized

        while(targetNO < 3)
        {

                while(LINEsense_read() == 0x0) // move forward when nothing is
sensed
                {
                        PWMForward();
                        line = 0;
                }
```

```c
            for(j = 0; j < 8000000; j++)     // ~1.5 sec timer
            {
                    while(LINEsense_read() == 0x1)
                    {
                            if(LINEsense_read() == 0x0)      // if a transition
from low to high is sensed, count the line
                            {
                                    line++;
                            }
                    }
            }

            PWMStop();
            for(j = 0; j < 7; j++)
            {
                    GPIOC->ODR ^= line << 8;                 // bit manipulation
to display the number of lines sensed
                    delay(3000000);
            }
            targetNO++;
        }

        while(1)
        {}



}
```