

```

#include "Main.h"
void main ( void )
{
    int loop = 1;
    unsigned int UltraFront;
    unsigned int UltraBack;
    unsigned int UltraLeft;
    unsigned int UltraRight;
    int Frontleftline;
    int Frontrightline;
    int Backline;
    //Connect Input Wire to Digital Output 11
    //Connect Output wire to Interrupt 1
    // Values are in inches
    Wait ( 5000 ) ;
    while ( loop == 1 )
    {
        Frontleftline = GetAnalogInput ( 1 ) ; // get info from front left line sensor
        Frontrightline = GetAnalogInput ( 2 ) ; // get info from front right line sensor
        Backline = GetAnalogInput ( 3 ) ; // get info from back sensor
        while ( (Frontleftline >= 250) && (Frontrightline >= 250) && (Backline >= 250) ) // While all the line sensors are good
        {
            StartUltrasonic ( 1 , 11 ) ; // interrupt 1= output label on sensor, DO1=
            //input label on sensor
            UltraFront = GetUltrasonic ( 1 , 11 ) ;
            PrintToScreen ( "ultrasonic =%d\n" , (int)UltraFront ) ; // for testing purposes only
            if ( UltraFront <= 20 ) // if robot is less than .. inches away
            {
                SetDigitalOutput ( 5 , 1 ) ; // Left motor forward
                SetDigitalOutput ( 7 , 1 ) ; // Right motor forward
            }
            else if ( UltraFront > 20 ) // if front sensor doesn't see anything
            {
                StartUltrasonic ( 2 , 12 ) ; // Back Ultrasonic
                StopUltrasonic ( 1 , 11 ) ; // Front Ultrasonic
                UltraBack = GetUltrasonic ( 2 , 12 ) ;
                if ( UltraBack <= 20 )
                {
                    SetDigitalOutput ( 6 , 1 ) ; // Left motor reverse
                    SetDigitalOutput ( 8 , 1 ) ; // Right motor reverse
                }
            }
            else if ( UltraBack > 20 ) // if back sensor doesn't see anything
            {
                StartUltrasonic ( 3 , 13 ) ; // Right Ultrasonic
                StopUltrasonic ( 2 , 12 ) ; // Back Ultrasonic
                UltraRight = GetUltrasonic ( 3 , 13 ) ;
                if ( UltraRight <= 20 ) // if right sensor sees robot
                {
                    SetDigitalOutput ( 5 , 1 ) ; // left motor forward
                    SetDigitalOutput ( 8 , 1 ) ; // Right motor reverse
                    while ( UltraRight <= 20 )
                    {
                        StartUltrasonic ( 1 , 11 ) ; // Start reading front sensor while turning right
                        UltraFront = GetUltrasonic ( 1 , 11 ) ;
                        if ( UltraFront <= 20 ) // If front sensor sees something
                        {
                            StopUltrasonic ( 3 , 13 ) ; // Stop the right sensor
                            break ; // Go back to the top ...i think
                        }
                    }
                }
            }
            else if ( UltraRight >= 20 ) // If right sensor doesn't see robot
            {
                StartUltrasonic ( 4 , 14 ) ; // Left Ultrasonic
            }
        }
    }
}

```

```

StopUltrasonic ( 3 , 13 ) ; // Right Ultrasonic
UltraLeft = GetUltrasonic ( 4 , 14 ) ;
if ( UltraLeft <= 20 ) // If left sensor sees robot
{
    SetDigitalOutput ( 6 , 1 ) ; // Left motor reverse
    SetDigitalOutput ( 7 , 1 ) ; // Right motor forward
    while ( UltraLeft <= 20 ) // While left sensor sees robot
    {
        StartUltrasonic ( 1 , 11 ) ; // Start reading front se-
        nsor while turning right
        UltraFront = GetUltrasonic ( 1 , 11 ) ;
        if ( UltraFront <= 20 ) // If front sensor sees someth-
        ing
        {
            StopUltrasonic ( 4 , 14 ) ; // Stop the left sen-
            sor
            break ; // Go back to the top ...i think
        }
    }
}
else
{
    SetDigitalOutput ( 5 , 1 ) ; // Left motor forward
    SetDigitalOutput ( 7 , 1 ) ; // Right motor forward
    Wait ( 2000 ) ;
    SetDigitalOutput ( 5 , 0 ) ; // Stop left motor
    SetDigitalOutput ( 7 , 0 ) ; // Stop right motor
    break ; // Hopefully this takes it back to the top
}
}
while ( (Frontleftline < 250) && (Frontrightline < 250) ) // If the front li-
ne sensors trip
{
    SetDigitalOutput ( 6 , 1 ) ; // Left motor reverse
    SetDigitalOutput ( 8 , 1 ) ; // Right motor reverse
    Wait ( 4000 ) ;
    SetDigitalOutput ( 5 , 0 ) ; // Stop left motor
    SetDigitalOutput ( 7 , 0 ) ; // Stop right motor
}
while ( Backline < 250 ) // If the back line sensor trips
{
    SetDigitalOutput ( 5 , 1 ) ; // Left motor forward
    SetDigitalOutput ( 7 , 1 ) ; // Right motor forward
    Wait ( 4000 ) ;
    SetDigitalOutput ( 5 , 0 ) ; // Stop left motor
    SetDigitalOutput ( 7 , 0 ) ; // Stop right motor
}
}
}

```