

Final Program

Name : UNT1TLED.BAS

Author : [select VIEW... EDITOR OPTIONS]

Notice : Copyright (c) 1980 [select VIEW.. .EDITOR OPTIONS] *

: All Rights Reserved

Date : 1/23/1980

Version: 1.0

Notes :

t*

```
DEFINE LOADER USED 1          'LINE RESERVED FOR BOOTLOADER
DEFINE OSC 20                 'DEFINE OSCILLATOR
```

```
DEFINE LCD_DREG PORTD        'SET DEFINES
Define LCD DBIT 4
DEFINE LCD_RSREG PORTD
DEFINE LCD_RSBIT 0
DEFINE LCD_EREG PORTD
DEFINE LCD_EBIT 2
DEFINE LCD_RWREG PORTD
DEFINE LCD_RWBIT 1
DEFINE LCD_BITS 4
DEFINE LCD_LINES 2
DEFINE LCD_COMMANDUS 1500
DEFINE LCD_DATAUS 50
DEFINE ADC_BITS 8
DEFINE ADC_CLOCK 3
DEFINE ADC_SAMPLEUS 50
```

```
TRISA=%11111111             'SET PORTA TO INPUTS
TRISB=/000000000            'SET PORTB TO OUTPUTS
TRISC=%00100000             'SET PORTC.5 TO INPUT
```

```
V var byte                  'SET VARIABLES
Z var byte
SWALL var byte
FWALL var byte
FLAME var byte
COUNTER var byte
COUNTER =0
```

PAUSE 500	
LCDOUT \$FE, 1	<i>'CLEAR LCD</i>
main:	
ADCON1 = 0	
ADCIN 0, V	<i>'ASSIGN SIDE WALL VARIABLE</i>
ADCIN 1, Z	<i>'ASSIGN FRONT WALL VARIABLE</i>
ADCIN 2, FLAME	<i>'ASSIGN FLAME DISTANCE VARIABLE</i>
SWALL = ((6787 / (V-3))-4)/5	<i>'SIDE WALL CALCULATION</i>
FWALL = ((6787 / (Z-3))-4)/5	<i>'FRONT WALL CALCULATION</i>
LCDOUT \$FE, \$80, "SW:"	<i>'DISPLAY INFORMATION ON LCD</i>
LCDOUT \$FE, \$80 +4, DEC SWALL	
LCDOUT \$FE, \$80 +9, "FW: "	
LCDOUT \$FE, \$80 +13, DEC FWALL	
LCDOUT \$FE, \$C03 "FL:"	
LCDOUT \$FE, \$C0 +4, #FLAME	
LCDOUT \$FE, \$C0 +9, "LN: "	
LCDOUT \$FE, \$C0 +13, DEC COUNTER	
PAUSE 100	
if counter =6 THEN GOSUB ROOM4	<i>'IF BOT CROSSES LINE 6 TIMES GO TO ROOM4</i>
IF PORTC.5 =0 THEN GOSUB LINE	<i>'IF WHITE LINE IS DETECTED GOSUB LINE</i>
IF FLAME <50 THEN GOSUB FANON	<i>'IF FLAME IS DETECTED WITHING 50 PARAMETER</i>
GOSUB FANON	
IF 12< SWALL < 14 THEN GOSUB STRAIGHT	<i>'IF SIDE WALL DETECTS BETWEEN 12 AND 14</i>
PARAMETERS THEN GOSUB STRAIGHT	
IF SWALL < 12 THEN GOSUB TURNRIGHT	<i>'IF SIDEWALL PARAMETERS ARE LESS THAN 12</i>
THEN GOSUB TURNRIGHT	
IF SWALL > 14 THEN GOSUB TURNLEFT	<i>'IF SIDEWALL PARAMETERS ARE GREATER</i>
THAN 14 THEN GOSUB TURNLEFT	
IF FWALL < 12 THEN GOSUB FRONTWALL	<i>'IF FRONTWALL PARAMETERS ARE LESS THAN</i>
12 THEN GOSUB FRONTWALL	
GOTO MAIN	
STRAIGHT:	

PORTB=%00010100
PAUSE 85
RETURN

'TURN RIGHT AND LEFT MOTOR FORWARD TO GO STRAIGHT

TURNLEFT:
PORTB=%00010000
PAUSEus 20
RETURN

'TURN RIGHT MOTOR FORWARD TO TURN BOT TO THE LEFT

TURNRIGHT:
PORTB=°/000000100
PAUSEus 20
RETURN

'TURN LEFT MOTOR FORWARD TO TURN BOT TO THE RIGHT

FRONT WALL:
PORTB=%00001010
PAUSE 450
PORTB=%000000100
pAUSE 666
RETURN

'TURN LEFT AND RIGHT MOTOR BACKWARDS TO BACK BOT UP

'TURN LEFT MOTOR FORWARDS TO TURN BOT RIGHT

LINE:
COUNTER = COUNTER +1
COUNTER
RETURN

'EACH TIME A WHITE LINE IS DETECTED ADD ONE TO

ROOM4:
PORTB=%00010100 'EXIT ROOM 3
PAUSE 100
PORTB=%00010010 'TURN LEFT
PAUSE 666
PORTB=%00010100 'GO STRAIGHT
PAUSE 5000
PORTB=°/000010000
PAUSE 666
RETURN

'TURN INTO ROOM 4

FANON:
PORTB=°/001000000
PAUSE 5000
return

'TURN FAN ON FOR 5 SECONDS WHEN IR IS DETECTED