' PIC16F88 code template for MECH307 Labs

The following configuration bits and register settings
' enable the internal oscillator, set it to 8MHz,
' disables master clear, and turn off A/D conversion

' Configuration Bit Settings:
' Oscillator INTRC (INT102) (RA6 for I/O)
' Watchdog Timer Enabled
' Power-up Timer Enabled
' MCLR Pin Function Input Pin (RA5 for I/O)
' Brown-out Reset Enabled
' Low Voltage Programming Disabled
' Flash Program Memory Write Enabled
' CCP Multiplexed With RB0
' Code Not Protected
' Data EEPROM Not Protected
' Fail-safe Clock Monitor Enabled
' Internal External Switch Over Enabled

' Define configuration settings (different from defaults)
#CONFIG
  __CONFIG _CONFIG1, _INTRC_IO & _PWRTE_ON & _MCLR_OFF & _LVP_OFF
#ENDCONFIG

' Set the internal oscillator frequency to 8 MHz
DEFINE OSC 8
OSCCON.4 = 1
OSCCON.5 = 1
OSCCON.6 = 1

' Turn off the analog to digital converters. Refer to Thread Design Example A.4
' in the textbook for an example of how to configure and use A/D conversion
ansel = 0

'Configure Port A and B as outputs
TrisA = %00100000
TrisB = %01000000

  gosub InitializeLEDs
' Put your code here:
myloop:
If (PortB.6==0) then
gosub LED_loop
endif
Goto myloop   'go back to label "loop" repeatedly

LED_loop:
High PORTA.2   'turn on PORTA.2
high PORTB.0   'turn on LED connected to PORTB.0
pause 100   'delay for 100 milliseconds

low PORTA.2   'turn off PORTA.2
Low PORTB.0   'turn off LED connected to PORTB.0

High PORTA.3
high PORTB.1
pause 100

low PORTA.3
Low PORTB.1

High PORTA.4
high PORTB.2
pause 100

low PORTA.4
Low PORTB.2

High PORTA.1
high PORTB.3
pause 100

low PORTA.1
Low PORTB.3

High PORTA.0
high PORTB.4
pause 100

low PORTA.0
Low PORTB.4

High PORTA.6
high PORTB.5
pause 100

low PORTA.6
Low PORTB.5
Return

InitializeLEDs:

   low PORTA.2   'turn off PORTA.2
   Low PORTB.0   'turn off LED connected to PORTB.0
   low PORTA.3
   Low PORTB.1
   low PORTA.4
   Low PORTB.2
   low PORTA.1
   Low PORTB.3
   low PORTA.0
   Low PORTB.4
   low PORTA.6
   Low PORTB.5

Return

end