

• The Program Code

' This program is written by engineer Rasha Siraje Aldeen Alhady

' The function of the program is "Wind mill control"

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' Batch 11

\$regfile = "m32def.dat"

\$crystal = 8000000

Config Porta.0 = Output ' stepper motor

Config Porta.1 = Output ' stepper motor

Config Porta.2 = Output ' stepper motor

Config Porta.3 = Output ' stepper motor

Config Portb.0 = Output

Config Portb.1 = Output

Config Portb.2 = Output

Config Portb.3 = Output

Config Pinb.0 = Input ' frpm optocoupler

Config Lcd = 40 * 2

Config Lcdpin = Pin , Db4 = Portc.4 , Db5 = Portc.5 , Db6 = Portc.6 , Db7 =
Portc.7 , E = Portc.1 , Rs = Portc.0

Cls

Cursor Off

Config Timer1 = Timer , Prescale = 64

Config Int0 = Falling

Enable Interrupts

Enable Int0

Enable Timer1

On Ovf1 Timeing

On Int0 Cou

Dim F As Long

Dim S As Long

Dim V As Long

Dim X As Byte

Dim Y As Byte

Start Timer1

Do

If S = 5 Then

If F >= 12 Then

V = F / 12

Else

V = 0

End If

S = 0

F = 0

End If

Locate 2 , 1

Lcd "Wind Speed = " ; V ; "/ S "

If V > 0 And V < 50 And Y = 0 Then

Y = 1

Gosub Position1

Portb.0 = 1

Portb.1 = 0

Portb.2 = 0

Portb.3 = 0

Elseif V >= 50 And V < 100 And Y = 1 Then

Y = 2

Gosub Position2

Portb.0 = 0

Portb.1 = 1

Portb.2 = 0

Portb.3 = 0

Elseif V >= 100 And V < 150 And Y = 2 Then

Y = 3

Gosub Position3

Portb.0 = 0

Portb.1 = 0

Portb.2 = 1

Portb.3 = 0

Elseif V > 150 And Y = 3 Then

Y = 4

Gosub Position4

Portb.0 = 0

Portb.1 = 0

Portb.2 = 0

Portb.3 = 1

End If

Loop

Position1:

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Return

Position2:

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

For X = 1 To 2

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Next

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Return

Position3:

For X = 1 To 2

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Next

For X = 1 To 3

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Next

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Return

Position4:

For X = 1 To 3

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Next

For X = 1 To 4

Porta.0 = 1

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 1

Porta.2 = 0

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 1

Porta.3 = 0

Waitms 30

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 1

Waitms 30

Next

Porta.0 = 0

Porta.1 = 0

Porta.2 = 0

Porta.3 = 0

Return

Cou:

Incr F

Return

Timeing:

Incr S

Return