'--------------------------------------------------

'Programmname: Test\_Schrittmotor.bas

'Funktion: eine Umdrehung 360 Grad

'Mikrocontroller: Mega8

'Input: -

'Output: Schrittmotor an an Port D.0

'--------------------------------------------------

$regfile = "m8Adef.dat"

$crystal = 8000000

$hwstack = 40

$swstack = 16

$framesize = 32

Config 1wire = Portc.3

Config Portd.0 = Output

Config Portd.1 = Output

Config Portd.2 = Output

Config Portd.3 = Output

Config Portd.4 = Output

Config Portd.5 = Output

Config Portd.6 = Output

Config Portd.7 = Output

Config Portb.0 = Output

Config Portb.1 = Output

Config Portb.2 = Output

Config Portc.0 = Input

Config Portc.1 = Input

Config Portc.2 = Input

Kontakt1 Alias Pinc.0

Kontakt2 Alias Pinc.1

Kontakt3 Alias Pinc.2

Config Timer1 = Timer , Prescale = 1024

Enable Timer1

On Timer1 Isr\_von\_t1

Enable Interrupts

Timer1 = 3035

Declare Sub Bewegen(byval Motor As Integer , Byval Steps As Integer , Byval Richtung\_1 As Integer)

Declare Sub Motor\_reset()

Declare Sub Temp()

Declare Sub Weg\_berechnung(byval Mot As Integer)

Declare Sub Temp\_anzeigen()

Dim Schr\_folge(8) As Byte 'Bitmuster für einen Stepp, hier Halbsteppbetrieb

Schr\_folge(1) = &B00000100 'Bitmuster ist auch für Drehrichtung verantwortlich

Schr\_folge(2) = &B00000101

Schr\_folge(3) = &B00000001

Schr\_folge(4) = &B00001001

Schr\_folge(5) = &B00001000

Schr\_folge(6) = &B00001010

Schr\_folge(7) = &B00000010

Schr\_folge(8) = &B00000110

Dim Zeit\_m(4) As Byte

Zeit\_m(1) = 80 '38

Zeit\_m(2) = 98 '38

Zeit\_m(4) = 80 '45 Motor links

Dim Motor\_spulen(4) As Byte

Dim Aktuelle\_stellung(4) As Integer

Dim Ar(9) As Byte

Dim Temperatur As Integer

Dim Celsius As Single

Dim T1 As Integer

Dim Temper As Integer

Dim Temp1 As Integer

Dim Vorkomma As Integer

Dim Zehner As Integer

Dim Einer As Integer

Dim H As Single

Dim Vork As Single

Dim Nachkomma As Integer

Dim C As Single

Dim Cc As Integer

Dim Tempv As Single

Dim Nachkomma2 As Single

Dim G As Single

Dim Pos As Integer

Dim Richtung As Integer

Waitms 500

Dim A As Integer

A = 0

Dim B As Integer

B = 0

'Portd.6 = 0 ' Enable Motor1 Zeit 28ms

'Portd.5 = 0 ' Enable Motor2 Zeit 30ms

'Portd.4 = 0 ' Enable Motor3 Zeit 30ms

Portd.7 = 0 ' LED blau an Pin 13

Portb.0 = 0 ' LED gelb an Pin 13

Portb.1 = 0 ' LED grün an Pin 13

Portb.2 = 0 ' LED rot an Pin 13

Call Motor\_reset

Do

 Portb.2 = 1

 Einer = 0

 Zehner = 0

 Nachkomma = 0

 Call Temp()

 Call Temp\_anzeigen()

 Wait 10

Loop

End

Sub Bewegen(byval Motor As Integer , Byval Steps As Integer , Byval Richtung\_1 As Integer) 'Byval Geschw As Integer

 Dim Schrit As Integer

 Dim Motorg As Integer

 Dim M As Integer

 Motorg = Motor Mod 5

 If Motorg = 4 Then

 If Richtung < 0 Then

 Steps = Steps + 10

 End If

 End If

 For M = 1 To Steps

 Motor\_spulen(motorg) = Motor\_spulen(motorg) + Richtung\_1

 Schrit = Motor\_spulen(motorg) Mod 8

 Schrit = Schrit + 1

 Portd = Schr\_folge(schrit) + Motor

 Waitms Zeit\_m(motorg)

 Next M

 Waitms 50

 Portd = 0

End Sub

Sub Weg\_berechnung(byval Mot As Integer)

 Dim Weg As Integer

 Dim Mot\_2 As Integer

 Mot\_2 = Mot

 Mot = Mot Mod 5

 Weg = Pos - Aktuelle\_stellung(mot)

 If Weg > 0 Then Richtung = 1

 If Weg < 0 Then

 Richtung = -1

 End If

 Aktuelle\_stellung(mot) = Aktuelle\_stellung(mot) + Weg

 Weg = Abs(weg)

 If Weg <> 0 Then Call Bewegen(mot\_2 , Weg , Richtung)

End Sub

Sub Temp\_anzeigen()

 Pos = Zehner

 Pos = Pos \* 8

 Call Weg\_berechnung(64)

 Pos = Einer

 Pos = Pos \* 8

 Call Weg\_berechnung(32)

 Pos = Nachkomma

 Pos = Pos \* 8

 Call Weg\_berechnung(16)

End Sub

Sub Motor\_reset()

 Motor\_spulen(4) = 15 'Motor links

 Motor\_spulen(2) = 15

 Motor\_spulen(1) = 15

 While Kontakt3 = 0

 Call Bewegen(64 , 2 , 1)

 Wend

 'Call Bewegen(64 , 2 , 1)

 While Kontakt2 = 0

 Call Bewegen(32 , 2 , 1)

 Wend

 Call Bewegen(32 , 4 , 1)

 While Kontakt1 = 0

 Call Bewegen(16 , 2 , 1)

 Wend

 'Call Bewegen(16 , 2 , 1)

 Aktuelle\_stellung(1) = 0

 Aktuelle\_stellung(2) = 0

 Aktuelle\_stellung(4) = 0

End Sub

Sub Temp()

 Nochmal:

 1wreset

 1wwrite &HCC

 1wwrite &H44

 Waitms 1000

 1wreset

 1wwrite &HCC

 1wwrite &HBE

 Ar(1) = 1wread(9)

 Waitms 1000

 If Ar(9) = Crc8(ar(1) , 8) Then

 Temperatur = Makeint(ar(1) , Ar(2))

 Celsius = Temperatur / 16

 C = Celsius \* 10

 Cc = Round(c)

 Nachkomma = Cc Mod 10

 C = Cc / 10

 Cc = C

 Einer = Cc Mod 10

 Zehner = Cc - Einer

 Zehner = Zehner / 10

 Temper = Zehner \* 10

 Temper = Temper + Einer

 Temp1 = Temper \* 10

 'Temp1 = Nachkomma + Temp1

 If Temp1 > 199 Then

 Portb.0 = 1

 Else

 Portb.0 = 0

 End If

 Else

 Goto Nochmal

 End If

 Waitms 500

End Sub

Isr\_von\_t1:

Timer1 = 3035

A = A + 2

If A > 16 Then '16 = 8 sec!

 A = 0

 B = B + 1

End If

If B = 3 Then

 B = 0

End If

Return