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

'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