LaTeX template for BASCOM code

Template for writing BASCOM code in LaTeX

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1 About template

The template is intended for writing documents containing BASCOM code and shows how to write BASCOM code directly with a LaTeX program, or by including a .bas file directly in a document. The template is very useful for writing documentation.

All BASCOM keywords are colored blue, red, green, purple...

This way of writing is very fast. The BASCOM code is colored and transparent and there is no need to deal with any document formatting.

2 Quick start

For quick start, follow this steps:

- Install Ghostscripts (https://www.ghostscript.com/download.html)
- Install MiKTeX on computer from site https://miktex.org/download.
- This template is written with Texmaker editor. You can download it from site https://www.xm1math.net/texmaker/.
- Open `template_BASCOM-code.tex` file in Texmaker and compile it.

NOTE: This template is **beta version** and doesen't include all bascom keywords yet. You can add keywords into preamble of template by yourself.

3 Corrections in version 2

- New keywords
- Properly colored brackets

```
Dim answer(10) As String *60
Getadc(3)
```

4 Including .bas file

bascom/led_on_off.bas

```
'on/off LED
$regfile ="m328pdef.dat"
$crystal =16000000

config portb =output

Do
   Portb.5 =1
   Waitms 500
   Portb.5 =0
   Waitms 500
Loop

End 'end programa
```

5 Example included asm code

bascom/asm_code_template.bas

```
Do_spm:
  Z =Page 'make equal to page
  Shift Z , Left , Maxwordshift 'shift to proper place
  Z =Z +Wrd 'add word
  !lds r30, {Z}
  !lds r31, {Z+1}
  #if _romsize >65536
      !lds r24, {Z+2}
      !sts rampz, r24 ' we need to set rampz also for the M128
  #endif
  Nvm_cmd =Spmcrval
  Cpu_ccp =&H9D
  !spm 'this is an asm instruction
Do_spm_busy:
   !lds r23,  NVM_STATUS
   !sbrc r23, 7 ; if busy bit is cleared skip next instruc tion
   !rjmp do_spm_busy
Return
```

6 Write BASCOM code directly into document

You could include BASCOM code into document by copying text directly:

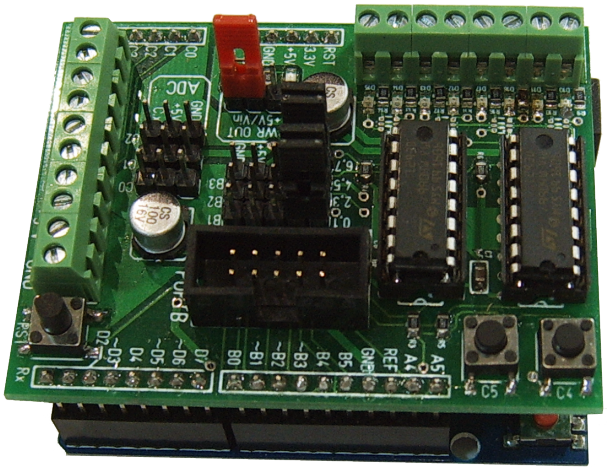
```
'input button example
$regfile ="m328pdef.dat"
$crystal =16000000

Config Portb =Output
Config Portc =Input
'config pull-up
Portc =63

Do
   If Pinc.1 =0 Then
      Portb.5 =1
   Else
      Portb.5 =0
   End If
Loop

End
```

7 Example included picture



Slika 1: Interface RobDuino

8 BASCOM code presented in two ways.

Directly written BASCOM code into this document.

```
'-----------------------------------------------------------------------------
' ARDUINO-UNO-REV3.BAS
' (c) 1995-2020, MCS Electronics
' This is a sample file for the Mega328 based ARDUINO board UNO REV3
' Select Programmer 'ARDUINO' , 115200 baud and the proper COM port
'-----------------------------------------------------------------------------
$regfile ="m328def.dat" ' used micro
$crystal =16000000 ' used xtal
$baud =19200 ' baud rate we want
$hwstack =40
$swstack =40
$framesize =40

Config Clockdiv =1 ' either use this or change the divider fuse byte
'-----------------------------------------------------------------------------

Config Portb =Output ' make portb an output
Do
  Toggle Portb ' toggle level
  Waitms 1000 ' wait 1 sec
  Print "UNO REV3" ' test serial com
Loop
```

And included .BAS file. The result is the same.

bascom/ArduinoUno.bas

```
'-----------------------------------------------------------------------------
' ARDUINO-UNO-REV3.BAS
' (c) 1995-2020, MCS Electronics
' This is a sample file for the Mega328 based ARDUINO board UNO REV3
' Select Programmer 'ARDUINO' , 115200 baud and the proper COM port
'-----------------------------------------------------------------------------
$regfile ="m328def.dat" ' used micro
$crystal =16000000 ' used xtal
$baud =19200 ' baud rate we want
$hwstack =40
$swstack =40
$framesize =40

Config Clockdiv =1 ' either use this or change the divider fuse byte
'-----------------------------------------------------------------------------

Config Portb =Output ' make portb an output
Do
  Toggle Portb ' toggle level
  Waitms 1000 ' wait 1 sec
  Print "UNO REV3" ' test serial com
Loop
```