

Re: Learning to use PICS

Source: <http://sci.tech-archive.net/Archive/sci.electronics.basics/2004-11/1459.html>

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Date: 11/28/04

Date: Sun, 28 Nov 2004 03:06:06 -0000

john jardine <john@jjdesigns.fsnet.co.uk> wrote in message
news:coac45\$hvg\$1@newsg3.svr.pol.co.uk...

>

> *"Sergio Masci" <sergio@NO.SPAM.xcprod.com> wrote in message*

> *news:41a89667\$0\$1067\$db0fefd9@news.zen.co.uk...*

>

> >[clip]

> >

> > *The XCSB compiler will convert the following to just 6 machine code*

> > *instructions:*

> >

> > *proc inline set_bit(ubyte *addr, ubyte id)*

> > **addr = *addr | (1 << id)*

> > *endproc*

> >

> > *proc inline clear_bit(ubyte *addr, ubyte id)*

> > **addr = *addr & ~(1 << id)*

> > *endproc*

> >

> > *proc inline ubyte test_bit(ubyte *addr, ubyte id)*

> > *return (*addr & (1 << id) != 0)*

> > *endproc*

> >

> > *proc main()*

> >

> > *ubyte a, b*

> >

> > *if (test_bit(&a, 1) then*

> > *set_bit(&b, 2)*

> > *else*

> > *clear_bit(&b, 2)*

> > *endif*

> > *endproc*

>

> *Looks like "C" to me.*

> *I know this must be so, as I can't understand it :-).*

> *Yet I can easily read the 'Proton', 'CH-flash', 'iL_Bas16' etc Basics.*

> *regards*

> *john*

It supports pointers like "C" but unlike many C compilers for the PIC it doesn't generate a ton of code to build and pass the pointers and then dereference them if it can determine the address at compile time. PEEK and POKE would be more in keeping with other BASIC dialects but pointers allow the programmer to give the compiler more information which in turn helps the compiler trap silly errors and generate better code.

The reason I chose the above example is because it shows how the compiler converts some very complex functionality into very tight code

Regards

Sergio Masci

<http://www.xcprod.com/titan/XCSB> – optimising PIC compiler
FREE for personal non-commercial use