

PIC Register BANK and flash PAGE switching.

Some nice macros that make fast switching of register banks.

Some of these are postscripted with "F" and are fast versions but they make assumptions. Only use these if you are sure about the given state and they don't take care of the INDF register pointer bits.. The BANKx versions are longer execution but always safe.

Some could be shortened by AND/OR operations but this would mean trashing W so we do it one bit at a time.

```
; Bank Switching Macros
;
;These macros do not impact any registers except where stated
;
; Macros:
;     BANK0      Switch to Bank0 by manipulating the status bits
;     BANK0F     Fast switch to Bank0 by trashing STATUS
;     BANK1      Switch to Bank1 by manipulating the status bits
;     BANK1F     Fast switch to Bank1 by setting single bank bit -
assumes we are in Bank0. Watch out for INDF!
;     BANK2      Switch to Bank2 by manipulating the status bits
;     BANK2F     Fast switch to Bank2 by setting single bank bit -
assumes we are in Bank0. Watch out for INDF!
;     BANK3      Switch to Bank3 by manipulating the status bits
;
;     PAGE0      Set flash Page0 by setting PCLATH bits
;     PAGE1      Set flash Page1 by setting PCLATH bits
;     PAGE2      Set flash Page2 by setting PCLATH bits
;     PAGE3      Set flash Page3 by setting PCLATH bits
;

BANK0    MACRO
    NOLIST
    BCF    STATUS,RP0    ; clear bank select bits
    BCF    STATUS,RP1
    BCF    STATUS,IRP    ; clear indirect addressing bit
    LIST
ENDM

BANK0F   MACRO          ; fast bank0 destroys fags
    NOLIST
    CLRF   STATUS
    LIST
ENDM

BANK1    MACRO
    NOLIST
    BSF    STATUS,RP0
    BCF    STATUS,RP1
```

```
    BCF      STATUS,IRP      ; clear indirect addressing bit
    LIST
    ENDM

BANK1F  MACRO                ; fast bank1 assumes we are in bank0
    NOLIST
    BSF      STATUS,RP0
    LIST
    ENDM

BANK2   MACRO
    NOLIST
    BCF      STATUS,RP0
    BSF      STATUS,RP1
    BSF      STATUS,IRP      ; set bit for indirect addressing
    LIST
    ENDM

BANK2F  MACRO                ; fast bank2 assumes we are in bank0
    NOLIST
    BSF      STATUS,RP1
    LIST
    ENDM

BANK3   MACRO
    NOLIST
    BSF      STATUS,RP0
    BSF      STATUS,RP1
    BSF      STATUS,IRP      ; set bit for indirect addressing
    LIST
    ENDM

BANK3F  MACRO                ; only changes bank bits, not IRP
    NOLIST
    BSF      STATUS,RP0
    BSF      STATUS,RP1
    LIST
    ENDM

; macros for accessing page's directly
PAGE0   MACRO
    NOLIST
    BCF      PCLATH,3
    BCF      PCLATH,4
    LIST
    ENDM

PAGE1   MACRO
    NOLIST
    BSF      PCLATH,3
```

```
BCF      PCLATH, 4
ENDM
```

```
PAGE2    MACRO
NOLIST
BCF      PCLATH, 3
BSF      PCLATH, 4
LIST
ENDM
```

```
PAGE3    MACRO
NOLIST
BSF      PCLATH, 3
BSF      PCLATH, 4
LIST
ENDM
```

From:

<https://fruitoftheshed.com/wiki/> - **FotS**

Permanent link:

https://fruitoftheshed.com/wiki/doku.php?id=pic_asm:pic_register_bank_switching

Last update: **2024/01/19 09:40**

