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Tuesday, 1 June 2010 00:38



Martix Keypad Interfacing with Microcontrollers: AVR Programming

► Programming AVR Microcontroller

► AVR Assembly Programming for ADC0804

CODE:

```

.include "8515def.inc"

.equ col1 = PINA0
.equ col2 = PINA1
.equ col3 = PINA2
.equ col4 = PINA3

.def keyval = r16
.def temp = r17
.def flags = r18

.equ keyport = PORTA
.equ pressed = 0

key_init:
    ldi keyval,$F0      ;Make Cols as i/p
    out DDRA, keyval   ;and Rows as o/p
    ldi keyval,$0F     ;Enable pullups
    out keyport, keyval ;on columns
    ret

get_key:
    ldi keyval,$0      ;Scanning Row1
    ldi temp,$7F       ;Make Row1 low
    out keyport,temp   ;Send to keyport
    rcall read_col     ;Read Columns

    sbrc flags,pressed ;If key pressed
    rjmp done          ;Exit the routine

    ldi keyval,$4      ;Scanning Row2
    ldi temp,$BF       ;Make Row2 Low
    out keyport,temp   ;Send to keyport
    rcall read_col     ;Read Columns

    sbrc flags,pressed ;If key pressed
    rjmp done          ;Exit from routine

    ldi keyval,$8      ;Scanning Row3
    ldi temp,$DF       ;Make Row3 Low
    out keyport,temp   ;Send to keyport
    rcall read_col     ;Read columns

    sbrc flags,pressed ;If key pressed
    rjmp done          ;Exit the routine

    ldi keyval,$C      ;Scanning Row4
    ldi temp,$EF       ;Make Row4 Low
    out keyport,temp   ;send to keyport
    rcall read_col     ;Read columns

done:
    ret

read_col:
    cbr flags, (1<<pressed) ;Clear status flag

    sbic PINA, col1        ;Check COL1
    rjmp nextcol          ;Go to COL2 if not low

hold:
    sbis PINA, col1        ;Wait for key release
    rjmp hold
    sbr flags, (1<<pressed) ;Set status flag
    ret                    ;key 1 pressed

nextcol:
    sbic PINA,col2        ;Check COL2
    rjmp nextcol1        ;Goto COL3 if not low

hold1:
    sbis PINA, col2        ;Wait for key release
    rjmp hold1
    inc keyval             ;Key 2 pressed
    sbr flags,(1<<pressed) ;Set status flag
    ret

nextcol1:
    sbic PINA,col3        ;Check COL3
    rjmp nextcol2        ;Goto COL4 if no pressed

hold2:
    sbis PINA, col3        ;Wait for key release
    rjmp hold2
    inc keyval             ;Key 3 pressed
    inc keyval
    sbr flags, (1<<pressed) ;Set status flag
    ret

nextcol2:
    sbic PINA,col4        ;Check COL4
    rjmp exit            ;Exit if not low

```

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>> Gaurav Sharma | 31 May :
 22:45
 hii vijay...how are you...

>> Gaurav Sharma | 31 May :
 22:44
 smone see the query at thread
 "NEED HELP FOR 8051
 PROGRAMMING " and reply please...

>> vijayboboe | 31 May : 22:21
 Hello Gaurav

>> firoz3321 | 31 May : 16:51
 Hello every one. I'm a complete
 newbie to the
 microcontrollers/processors (except
 that i did a project : GreenBee) I just
 completed My B.Tch in electronics
 with Bad %age and no company
 seems to be interested in taking me
 in. So i was just wondering... To
 further learn abt the
 controllers/processors what should i
 start next with ? i just know the
 names AVR ARM and PIC etc but
 have no idea. Please guide me ...
 Thank You

>> Afnan | 31 May : 15:53
 @ hail2ma
 there might be a tutorial there if not
 then i can help in c#

>> Anonymous | 31 May : 09:05
 hyee..i'm have a project the voice
 controlled the wheelchair..but until
 now i dont know how to build it..can
 you or somebody help me or give
 me some guide how to build
 it..please help me..

>> Tommy.Kofisterix | 30 May :
 17:47
 Ehm what's that? TOP20 on index is
 self-scrolling down 😊

>> mista | 30 May : 16:42
 hi scientiste

>> Tommy.Kofisterix | 29 May :
 14:32
 Hey, hi, people 😊

>> hail2ma | 29 May : 03:36
 pls i need vb 6.0 code to send data
 to 89c52 microcontroller, interfaced to
 pc. p0 is connected to db25, and
 three comand boton on vb to send
 #1, #2,#3,respectively to the p0 of
 the microcontroler

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