LAMPIRAN PROGRAM

SISTEM KENDALI CERDAS
UNTUK MINIATUR PINTU PARKIR OTOMATIS BERBASIS MIKROKONTROLLER AT89S51
PADA INSTANSI PEMERINTAHAN XYZ

```
Ir1                         bit p0.0
Ir2                         bit p0.1
Rel1a                       bit p2.4
Rel1b                       bit p2.5
Rel2a                       bit p2.6
Rel2b                       bit p2.7
KbdData          bit p3.3
KbdClock                    bit p3.2
DataKeyboard equ 30h
;=====================
;main program
;=====================
Org      00h
         Mov p2,#00h
         Call delay
         Mov p2,#ffh
         Call delay
         Mov p2,#00h
         Call delay
Mulai:
Sen1 :
         jnb ir1,$           ;sensor 1
         setb rel1a          ;gerbang utama buka
         clr rel1b
         call delay
         call delay
         call delay
         jb ir1,$                    ;tunggu sampai mobil melewati
sensor 1
         clr rel1a           ;gerbang utama menutup
         setb rel1b
         call delay
         call delay
         call delay
         clr rel1a           ;motor gerbang utama mati
         clr rel1b
Forever :
         jB KbdClock,$
         call GetDatakeyboard
```

```
        jnc Forever
        mov p1, DataKeyboard
        mov r5,p1
        clr c
barcode1;
        cjne r5,#31h,barcode2           ;pintu utama mobil kecil
terbuka
        setb rel2a
        clr rel2b
        call delay
        call delay
        call delay
        clr rel2a                       ;motor pintu off
        clr rel2b
        jnb ir2,$                       ;menunggu mobil melewati sensor 2
        clr rel2a
        setb rel2b
        call delay
        call delay
        call delay
        ajmp tutup_pintu
barcode2 :
        cjne r5,#32h,barcode3           ;pintu untuk mobil sedang
buka
        setb rel2a
        clr rel2b
        call delay
        call delay
        call delay
        call delay
        call delay
        clr rel2a                       ;motor pintu off
        clr rel2b
        jnb ir2,$                       ;menunggu mobil melewati sensor 2
        clr rel2a
        setb rel2b
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        ajmp tutup_pintu
```

```
barcode3:
        cjne r5,#33h,barcode1       ;pintu untuk mobil besar buka
        setb rel2a
        clr rel2b
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        clr rel2a                   ;motor pintu off
        clr rel2b
        jnb ir2,$                   ;menunggu mobil melewati sensor 2
        clr rel2a
        setb rel2b
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        call delay
        ajmp tutup_pintu

tutup_pintu:
        clr rel2a
        clr rel2b
        ajmp mulai

;=========================
;Subroutine Get Data From Keyboard
;=========================
GetDataKeyBoard :
        call Get scancode
        cjne a,#0f0h,kybd_pressed
        JB KbdClock,$
        call Get_Scancode
        setb c
```

```
            call Convert_scancode
            ret
;
Kybd_pressed:
            clr c
            ret
;
;=========================
;Subroutine convert scan data
;Using look Up Table
;=========================
Convert_ScanCode :
            Mov datakeyboard, a
            Mov DPTR, #tableKeyboard
            Movc A,@A+DPTR
            Mov DataKeyboard, A

Get_scancode :
            Clr A
            Jnb KbdClock, $
            Mov R0 , $8
Get_ScanCode2 :
            Jb KbdClock, $
            Mov C ,KbdData
            Rr A
            Mov acc ,7 ,C
            Jnb KbdClock ,$
            Djnz R0 ,Get_Scan Code2
            Jb KbdClock, $
            Jnb KbdClock ,$
            Jb KbdClock ,$
            Jnb KbdClock , $
            Ret

Delay :   mov       r5 ,#10h                ;program tunda
Deley1 : mov        r6 ,#0ffh
Deley2 : mov        r7 ,#0ffh
            Djnz    r7 ,$
            Djnz    r6 ,deley2
            Djnz    r5 ,deley1              ;ret→ return yaitu kembali
pada program saat label
                                                ;dipanggil
```

TabeleKeyboard :

```
Db      00
Db      0f9H
DB      00
DB      0F5H, 0F3H, 0F1H, 0F2H, 0FCH
DB      00H
DB      0FAH, 0F8H, 0F4H
DB      0C0H
DB      '~'
DB      00H
DB      00H
DB      0C1H
DB      0C2H
DB      00H
DB      0C3H
DB      'Q1'
DB      00H, 00H, 00H
DB      'ZSAW2'
DB      00H, 00H
DB      'CXDE43'
DB      00H, 00H
DB      '  VFTR5'
DB      00H, 00H
DB      00H, 00H
DB      'NBHGY6'
DB      00H, 00H, 00H
DB      'MJU78'
DB      00H, 00H
DB      ',KI009'
DB      00H, 00H
DB      './L; P-'


DB 00H,00H,00H
DB 27H
DB 00H
DB `[=`
DB 00H,00H
DB 0C5H
DB 0C6H
DB 0AH
```

```
DB `\`
DB  00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H
DB 08H
DB 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H
DB 00H, 00H
DB 0DH
DB 00H
DB 0FBH
DB 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H, 00H,
00H
DB 0F7H
end
```