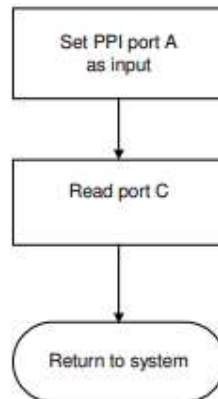


عملية الإدخال إلى لوحة المعالج 8086 من خلال المفاتيح ولوحة المفاتيح

أولاً: عملية الإدخال من المفاتيح:



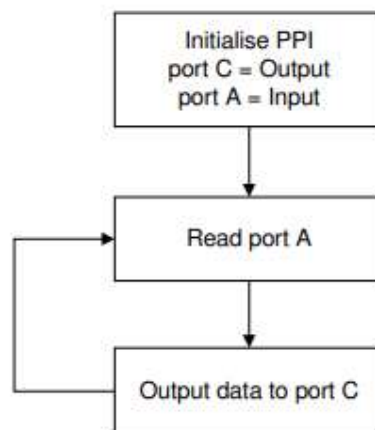
```

PPIAA: EQU 00H      ;U10 8255A PORT A
PPIAB: EQU 02H      ;          PORT B
PPIAC: EQU 04H      ;          PORT C
PPIAK: EQU 06H      ;          CONTROL

ORIGIN 0050H:0100H
START: MOV AL,90h    ;SET CONTROL BYTE FOR PPI
        OUT PPIAK,AL ;OUTPUT TO CONTROL REG
        IN  AL,PPIAA ;READ DATA ON PORT A (SWITCHES)
        INT 5        ;RETURN TO MONITOR

END
  
```

ثانياً - الإدخال من المفاتيح والإخراج إلى الليدات:



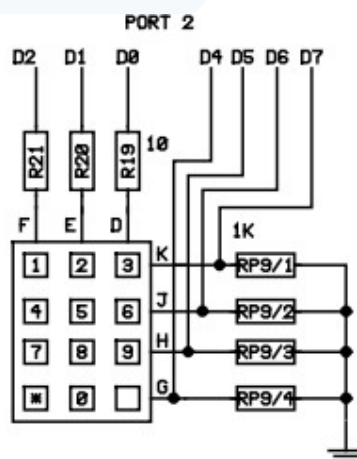
```

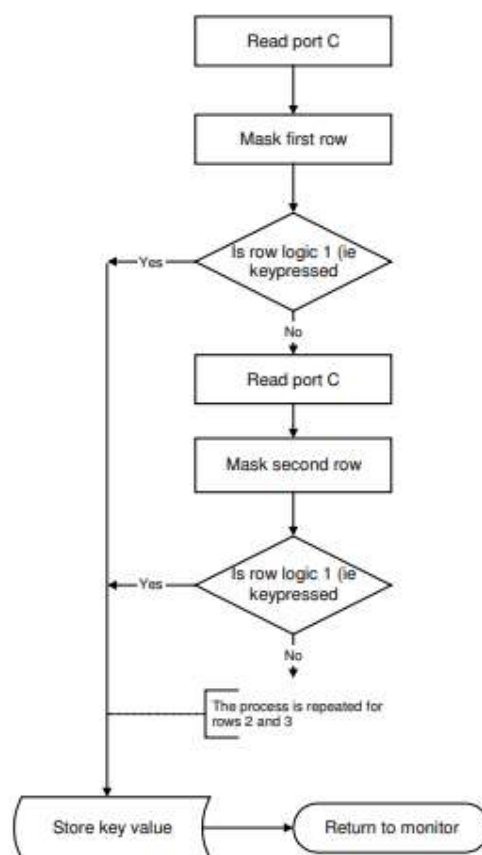
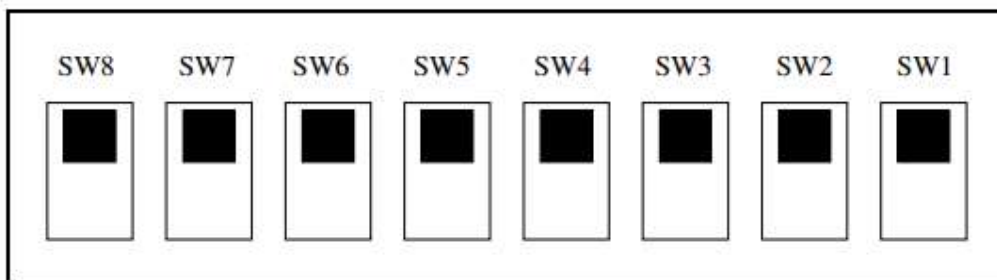
PPIAA: EQU 00H ;U10 8255A PORT A
PPIAB: EQU 02H ; PORT B
PPIAC: EQU 04H ; PORT C
PPIAK: EQU 06H ; CONTROL

        ORIGIN 0050H:0100H
START:  MOV AL,90h ;SET CONTROL BYTE FOR PPI
        OUT PPIAK,AL ;OUTPUT TO CONTROL REG
NEXT:   IN AL,PPIAA ;READ DATA ON PORT A (SWITCHES)
        OUT PPIAC,AL ;OUTPUT TO PORT C (LED's)
        JA NEXT ;REPEAT FOREVER

        END
  
```

ثالثاً - الإدخال من خلال لوحة المفاتيح:





```

PPIAA: EQU 00H ;U10 8255A PORT A
PPIAB: EQU 02H ;PORT B
PPIAC: EQU 04H ;PORT C
PPIAK: EQU 06H ;CONTROL

DELTIME EQU 1000H ;DELAY COUNT

ORIGIN 0050H:0100H
START: MOV AL,98H ;SET CONTROL BYTE FOR PPI
OUT PPIAK,AL ;OUTPUT TO CONTROL REG

SCAN: MOV AL,1 ;ACTIVATE FIRST COL
OUT PPIAC,AL
IN AL,PPIAC ;AND READ
AND AL,80H ;MASK FOR KEY 3
JZ TRY6 ;IF NOT 3 TRY 6
CALL DEBOUNCE ;BEBOUNCE
MOV BL,3 ;STORE 3
JMP DONE

TRY6: IN AL,PPIAC ;AND READ
AND AL,40H ;MASK FOR KEY 6
JZ TRY9 ;IF NOT 6 TRY 9
CALL DEBOUNCE ;BEBOUNCE
MOV BL,6 ;STORE 6
JMP DONE

TRY9: IN AL,PPIAC ;AND READ
AND AL,20H ;MASK FOR KEY 9
JZ TRYSPACE ;IF NOT 9 TRY SPACE
CALL DEBOUNCE ;BEBOUNCE
MOV BL,9 ;STORE 9
JMP DONE

TRYSPACE: IN AL,PPIAC ;AND READ
AND AL,10H ;MASK FOR KEY SPACE
JZ COL2 ;IF NOT SPACE TRY COL 2
CALL DEBOUNCE ;BEBOUNCE
MOV BL,0FFH ;STORE SPACE
JMP DONE

```

```

COL2: MOV AL,2 ;ACTIVATE SECOND COL
OUT PPIAC,AL
IN AL,PPIAC ;AND READ
AND AL,80H ;MASK FOR KEY 2
JZ TRY5 ;IF NOT 2 TRY 5
CALL DEBOUNCE ;BEBOUNCE
MOV BL,2 ;STORE 2
JMP DONE

TRY5: IN AL,PPIAC ;AND READ
AND AL,40H ;MASK FOR KEY 5
JZ TRY8 ;IF NOT 5 TRY 8
CALL DEBOUNCE ;BEBOUNCE
MOV BL,5 ;STORE 5
JMP DONE

TRY8: IN AL,PPIAC ;AND READ
AND AL,20H ;MASK FOR KEY 8
JZ TRY0 ;IF NOT 8 TRY 0
CALL DEBOUNCE ;BEBOUNCE
MOV BL,8 ;STORE 8
JMP DONE

```