RS EQU P2.7

RW EQU P2.6

E EQU P2.5

SEL EQU 41H

ORG 000H

CLR P2.0

MOV TMOD,#00100001B

MOV TH1,#253D

MOV SCON,#50H

SETB TR1

ACALL LCD\_INIT

MOV DPTR,#TEXT1

ACALL LCD\_OUT

ACALL LINE2

MOV DPTR,#TEXT2

ACALL LCD\_OUT

MAIN:ACALL LCD\_INIT

MOV DPTR,#TEXT1

ACALL LCD\_OUT

ACALL LINE2

MOV DPTR,#TEXT2

CLR P2.0

ACALL LCD\_OUT

ACALL DELAY1

ACALL DELAY1

ACALL READ\_KEYPRESS

ACALL LINE1

MOV DPTR,#CHKMSG

ACALL LCD\_OUT

ACALL DELAY1

ACALL CHECK\_PASSWORD

SJMP MAIN

LCD\_INIT: MOV DPTR,#INIT\_COMMANDS

SETB SEL

ACALL LCD\_OUT

CLR SEL

RET

LCD\_OUT: CLR A

MOVC A,@A+DPTR

JZ EXIT

INC DPTR

JB SEL,CMD

ACALL DATA\_WRITE

SJMP LCD\_OUT

CMD: ACALL CMD\_WRITE

SJMP LCD\_OUT

EXIT: RET

LINE2:MOV A,#0C0H

ACALL CMD\_WRITE

RET

LINE1: MOV A,#80H

ACALL CMD\_WRITE

RET

CLRSCR: MOV A,#01H

ACALL CMD\_WRITE

RET

CMD\_WRITE: MOV P0,A

CLR RS

CLR RW

SETB E

CLR E

ACALL DELAY

RET

DATA\_WRITE:MOV P0,A

SETB RS

CLR RW

SETB E

CLR E

ACALL DELAY

RET

DELAY: CLR E

CLR RS

SETB RW

MOV P0,#0FFh

SETB E

MOV A,P0

JB ACC.7,DELAY

CLR E

CLR RW

RET

DELAY1:MOV R3,#46D

BACK: MOV TH0,#00000000B

MOV TL0,#00000000B

SETB TR0

HERE1: JNB TF0,HERE1

CLR TR0

CLR TF0

DJNZ R3,BACK

RET

DELAY2: MOV R3,#250D

BACK2: MOV TH0,#0FCH

MOV TL0,#018H

SETB TR0

HERE2: JNB TF0,HERE2

CLR TR0

CLR TF0

DJNZ R3,BACK2

RET

READ\_KEYPRESS: ACALL CLRSCR

ACALL LINE1

MOV DPTR,#IPMSG

ACALL LCD\_OUT

ACALL LINE2

MOV R0,#5D

MOV R1,#160D

ROTATE:ACALL KEY\_SCAN

MOV @R1,A

ACALL DATA\_WRITE

ACALL DELAY2

INC R1

DJNZ R0,ROTATE

RET

CHECK\_PASSWORD:MOV R0,#5D

MOV R1,#160D

MOV DPTR,#PASSW

RPT:CLR A

MOVC A,@A+DPTR

XRL A,@R1

JNZ FAIL

INC R1

INC DPTR

DJNZ R0,RPT

ACALL CLRSCR

ACALL LINE1

MOV DPTR,#TEXT\_S1

ACALL LCD\_OUT

ACALL LINE2

ACALL DELAY1

SETB P2.0

MOV DPTR,#TEXT\_S2

ACALL LCD\_OUT

ACALL DELAY1

SJMP GOBACK

FAIL:ACALL CLRSCR

ACALL LINE1

MOV DPTR,#TEXT\_F1

ACALL LCD\_OUT

ACALL DELAY1

ACALL LINE2

MOV DPTR,#TEXT\_F2

ACALL LCD\_OUT

ACALL DELAY1

GOBACK:RET

KEY\_SCAN:MOV P3,#11111111B

CLR P3.0

JB P3.4, NEXT1

MOV A,#49D

RET

NEXT1:JB P3.5,NEXT2

MOV A,#50D

RET

NEXT2: JB P3.6,NEXT3

MOV A,#51D

RET

NEXT3: JB P3.7,NEXT4

MOV A,#65D

RET

NEXT4:SETB P3.0

CLR P3.1

JB P3.4, NEXT5

MOV A,#52D

RET

NEXT5:JB P3.5,NEXT6

MOV A,#53D

RET

NEXT6: JB P3.6,NEXT7

MOV A,#54D

RET

NEXT7: JB P3.7,NEXT8

MOV A,#66D

RET

NEXT8:SETB P3.1

CLR P3.2

JB P3.4, NEXT9

MOV A,#55D

RET

NEXT9:JB P3.5,NEXT10

MOV A,#56D

RET

NEXT10: JB P3.6,NEXT11

MOV A,#57D

RET

NEXT11: JB P3.7,NEXT12

MOV A,#67D

RET

NEXT12:SETB P3.2

CLR P3.3

JB P3.4, NEXT13

MOV A,#42D

RET

NEXT13:JB P3.5,NEXT14

MOV A,#48D

RET

NEXT14: JB P3.6,NEXT15

MOV A,#35D

RET

NEXT15: JB P3.7,NEXT16

MOV A,#68D

RET

NEXT16:LJMP KEY\_SCAN

INIT\_COMMANDS: DB 0CH,01H,06H,80H,3CH,0

TEXT1: DB "PASSWORD BASED",0

TEXT2: DB "SECURITY SYSTEM",0

IPMSG: DB "INPUT 5 DIGITS",0

CHKMSG: DB "CHECKING PASSWORD",0

TEXT\_S1: DB "ACCESS - GRANTED",0

TEXT\_S2: DB "DOOR OPENED",0

TEXT\_F1: DB "WRONG PASSWORD",0

TEXT\_F2: DB "ACCESS DENIED",0

PASSW: DB 49D,50D,51D,52D,53D,0

END