;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ;Objective : heart beat;Name of the Programmer : mukesh raj;Version : 0.0.1;Hardware Used : CPU Board,LCD, Power Supply, 8 pin connector ; 3 pin connector;Program Description :LCD interfacing ; Register Bank 0 is used ; Crystal=11.0592kHz ; Port0 is used as LCDPORT;Status :; \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*HARDWARE DECLEARATION\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* lcdrs equ p2.7 ;resistor select lcdrw equ p2.6 lcde equ p2.5 ;enable pin lcdport equ p0 SW1 EQU p1.0 sw2 equ p1.1 tsen equ p1.2 gsen equ p1.3 led1 equ p3.0 led2 equ p3.1 rled equ p2.0 time\_flag bit 08H time equ 40H time2 equ 45H size equ 30h ; \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*start of the program\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ORG 0000H ;RESET OPERATION AJMP POWERON ;GO TO POWERON LABEL ORG 0003H ;EXTERNAL0 INTERRUPT RETI ;RETURN FROM THE INTERRUPT ORG 000BH ;TIMER0 INTERRUT acall t0isrRETI ORG 0013H ;EXTERNAL1 INTERRUPT RETI ORG 001BH ;TIMER1 INTERRUPT RETI ORG 0023H ;SERIAL COMMUNICATION INTERRUPT RETI ORG 0033HPOWERON: MOV SP,#70H ; Move the stack pointer at 70h location MOV IE,#00H ; Disable all the interrupts MOV IP,#00H ; Dissable the interrupt priority register MOV P0,#0FFH ; Move 0FFH in in port 0 MOV P1,#0FFH ; Move 0FFH in in port 1 MOV P2,#0FFH ; Move 0FFH in in port 2 MOV P3,#0FFH ; Move 0FFH in in port 3 CLR LCDRW acall LCDINIT ; call initialize routine acall delay mov dptr,#countable mov r2,#05d mov r3,#00h mov tmod,#01H mov th0,#3CH mov tl0,#0AFH setb EA start: jnb sw1,main jnb tsen,temp jnb gsen,gcos sjmp startmain: setb tr0 mov r0,#00d mov r1,#00d mov r2,#00d mov lcdport,#38h acall sendcmd acall delay mov lcdport,#01h acall sendcmd acall delay mov lcdport,#8dh acall sendcmd acall delay mainloop: jnb sw2,main1 jnb tsen,temp ljmp mainloop main1: clr rled acall display acall delay ljmp counter temp: clr led2 MOV A,#0C0H ACALL sendcmd ACALL delay MOV DPTR,#temper MOV size,#15D ACALL send\_message acall longdelay setb led2 ret gcos: clr led2 MOV A,#0C0H ACALL sendcmd ACALL delay MOV DPTR,#bottle MOV size,#15D ACALL send\_message acall longdelay setb led2 ret counter: inc r0 setb rled cjne r0,#10d,mainloop mov r0,#00 inc r1 cjne r1,#9d,mainloop clr led1 clr led2 acall longdelay acall longdelay setb led1 setb led2 ljmp main LCDINIT: mov a,#01h ; clear display acall sendcmd acall delay mov a,#38h ; function set acall sendcmd acall delay back: MOV A,R3 MOVC A,@A+DPTR ACALL senddata ACALL delay INC R3 DJNZ size,back RET stay: sjmp stay display: acall senddata acall delay rett0isr: mov th0,#3CH mov tl0,#0AFH djnz time,plz mov time,#200 mov size,#15d acall send\_message ljmp startplz: retheart: MOV A,#80H ACALL sendcmd ACALL delay MOV DPTR,#countable MOV size,#11D ACALL send\_message ret senddata: setb lcdrs ;lcd reads for data when rs is high clr lcdrs retsendcmd: clr lcdrs ;lcd reads for command when rs is low;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* DELAY ROUTINE \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*delay: mov r5,#18h djnz r5,jp8 ret ;\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*long delay for initializing LCD\*\*\*\*\*\*\*\*\*\*\*\*\*\* longdelay: mov r0,#80h ret table1:org 200hcount:db '0123456789'countable: DB 'Pulse rate:' rettemper: DB 'Fever Temperture' rettemper1: DB 'NormalTemperture' retbottle: DB 'PLE Empty Bottle' retovertime: db 'PLE Time is Over'