XDEF shutdown

XREF ledswitches, dispG, display\_string, instepper

XREF hexkeypad, switchchange, disp3, gen1stat, shutoff, HOMEflg

XREF gen2stat, gen3stat, gen1off, gen2off, gen3off, port\_s

XREF port\_t, switchstatus, dispe, rows, lookup, PTU, switchflg, delayon, delaytimer

XREF waithold, dispc, gen2flg, gen3flg, dispd, timeswrong, SendsChr, PlayTone, alarm

; This is only shown when the IRQ is pressed.

; The IRQ sets a flag that we set up to be able to be seen anywhere so that it can come here ASAP

; While here all other things are pasued

; When you return everything will be returned back to the way you left them

; While here it displays a message and waits for the proper password and ID

; This is a simple hex keypad routine

shutdown:

MOVB #0, HOMEflg ; let program know its not home

MOVB #1, alarm ; play alarm music

MOVB #$FF, ledswitches ; flash all leds

MOVB #$0, instepper ; let program know its not in the stepper

MOVB #$1, waithold

MOVB gen1off, gen1stat

MOVB gen2off, gen2stat

MOVB gen3off, gen3stat ; save generator previous status and turn off all generators

MOVB #1, gen1off

MOVB #1, gen2off

MOVB #1, gen3off

MOVB #$00, $242 ; turn off DC motor

BSET $242, $20

MOVB #0, gen2flg

retry LDX #3

LDY #9

LDAA #20

STAA gen3flg

passchecki1: PSHX

LDD #dispG

JSR display\_string

PULX

CPX #7

BEQ ENDRTI2jmp

JSR hexkeypad2 ; user input

CMPA #9

BLE number3i1

ADDA #$7

number3i1: STAA $411 ;Address 411 contains button pressed for password

LDAB disp3, y

SUBB #$30

CMPB $411

BNE incorrect

LDAA #'\*' ; update LCD to show how far in password

PSHX

LDX gen2flg

STAA dispG,X

INX

STX gen2flg

PULX

INX

INY

BRA passchecki1

ENDRTI2jmp: JMP ENDRTI2

incorrect: movb #'I', dispd+6

movb #'D', dispd+7

movb #' ',dispd+8

movb #' ',dispd+9

movb #' ',dispd+10

movb #' ',dispd+11

movb #' ',dispd+12

movb #' ',dispd+13

movb #' ',dispd+14

movb #' ',dispd+15

movb #' ',dispd+16

movb #' ',dispd+17

movb #' ',dispd+18

movb #' ',dispd+19

movb #' ',dispd+20

LDD #dispd

JSR display\_string

waitforf: JSR hexkeypad2

CMPA #$F

BNE waitforf ; wait for user to acknowledge they are wrong

movb #'P', dispd+6

movb #'a', dispd+7

movb #'s',dispd+8

movb #'s',dispd+9

movb #'w',dispd+10

movb #'o',dispd+11

movb #'r',dispd+12

movb #'d',dispd+13

movb #' ',dispd+14

movb #' ',dispd+15

movb #'o',dispd+16

movb #'r',dispd+17

movb #' ',dispd+18

movb #'I',dispd+19

movb #'D',dispd+20

movb #'X',dispG+20

movb #'X',dispG+21

movb #'X',dispG+22

movb #'X',dispG+23

JMP retry

ENDRTI2:

movb #'X',dispG+20

movb #'X',dispG+21

movb #'X',dispG+22

movb #'X',dispG+23

LDAA switchflg

CMPA #1

BEQ ENDRTI3

LDAA port\_t

CMPA switchstatus

BEQ ENDRTI3

LDD #dispe

JSR display\_string

waitforswitch: LDAA port\_t

ANDA #$7 ; verify switches are in position prior to shutdown

CMPA switchstatus

BNE waitforswitch

ENDRTI3 MOVB #0, gen2flg

MOVB gen1stat, gen1off

MOVB gen2stat, gen2off ; return generators to initial conditions

MOVB gen3stat, gen3off

MOVB #$08, $242 ; turn DC motor back on

BSET $242, $20

MOVB #0, switchchange

LDAA #$FF ; when returning to other parts of program, this

; indicates a shutdown just occured

MOVB #$0, ledswitches

MOVB #$0, waithold

MOVB #0, timeswrong

MOVB #0, alarm

MOVB #0, shutoff

MOVB #0, delayon

MOVB #0, delaytimer

MOVB #0, port\_s

RTS

hexkeypad2:

; similar to hexkeypad file with minor alterations to allow the shutdown file to run correctly

PSHX

PSHY

loop: LDX #rows

loop1: CPX #rows+4

BEQ loop

LDAA 1, x+

STAA PTU

JSR debounce

ANDA #$0F

CMPA #$0F

BEQ loop1jmp

BRA letgo

loop1jmp: jmp loop1

letgo: LDAA PTU

ANDA #$0F

CMPA #$0F

BNE letgo

LDAA #0

LDY #lookup

loop2: CMPB 1, y+

BEQ gohome

inca

CPY #lookup + 16

BNE loop2

BRA loopjmp

loopjmp: jmp loop

gohome:

PULY

PULX

RTS

debounce:

JSR delay

LDAA PTU

TAB

RTS

delay:

LDY #1000

loop4: DEY

BNE loop4

RTS