

[illegible]

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        jmp      terminate                ;terminate program if null character is recieved
;end section from lab 9
;^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

checkKeyVal:
                                ;go to Encrypt if keyVal is not null
        mov     r0, #keyBytesRAMAddress    ;re-initialize RAM pointer

;begin section from lab 9
;vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv
Encrypt:
        xrl     a, @r0              ;encrypt the character contained in the accumulator
        call    writechar           ;write the encrypted character
        jmp     mainloop

terminate:
        mov     a, #0x00             ;load null character into accumulator
        call    writechar           ;append the null character to text output
        sjmp    $                   ;halt

;-----   getchar   -----;
;subroutine receives nothing before it is called
;writes the character to the serial console
;returns a byte in the accumulator
getchar:
        mov     a, sbuf              ;get serial data (char)
        clr     ri                   ;acknowledge data received
        ret                                           ;return from subroutine call

;-----   writechar   -----;
;receives byte or character
;reads a character that has been received serially
;returns the c
writechar:
        mov     sbuf, a              ;send data (char) serially
        jnb     ti, $               ;wait until data is sent
        clr     ti                  ;acknowledge data has been sent
        ret                                           ;return from subroutine call

;end section from lab 9
;^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
;multibyte keys are defined below, only one will be used at a time
org 0x200
keyvals:    db    '12345678',0
keyvals2:   db    0x23, 0x34, 0x45, 0x56, 0x67, 0x78,0x89,0x90, 0x00

end
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