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;1DT301, Computer Technology I
:Date: 2019-10-11
:Author:
 Student name 1:
                     Einar van de Velde
 Student name 2:
                     Abdulla Mehdi
;Lab number:
                     4.
                     Task 4.
:Title:
                     STK600, CPU ATmega2560.
;Hardware:
:Function:
                     Display an ASCII character on LEDs and on
                     host computer's terminal from input via serial
                     connection using polling
;Input ports:
                     URATO.
;Output ports:
                     PORTB & URATO
;Subroutines:
                     None.
:Included files:
                     m2560def.inc
;Other information:
;Changes in program:
     File Created (2019-10-11)
          Program is runnable (2019-10-11)
.include"m2560def.inc"
.CSEG
.org 0x00
rjmp START
.org 0x30
START:
       ldi r17, 0xFF
                                ; Load Immediate
       out DDRB, r17
       ldi r17, 0x55
       out PORB, r17
       ldi r17, 12
                                ; Store Direct To SRAM
       sts UBRR1L, r17
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Idi r17, (1<<TXEN1)| (1<<RXEN1) sts UCSR1B, r17 GET_CHAR: lds r17, UCSR1A ; Load Direct from SRAM sbrs r17, RXC1 ; Skip if Bit in Register is Set rjmp GET_CHAR lds r16, UDR1 PORT_OUTPUT: com r16 ; Ones Compliment com r16 out PORTB, r16 com r16 PUT CHAR: lds r17, UCSR1A sbrs r17, UDRE1 rjmp PUT_CHAR sts UDR1, r16 rjmp GET_CHAR

;SPEED: 4800