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;1DT301, Computer Technology I
:Date: 2019-09-18
:Author:
                     Einar van de Velde
 Student name 1:
                     Abdulla Mehdi
  Student name 2:
;Lab number:
                     2.
                     Task 3.
:Title:
;Hardware:
                     STK600, CPU ATmega2560.
:Function:
                     Count the number of changes on aswitch.
                     Change we count when the switch SW0
                     goes from 0 to 1 and from 1 to 0.
                     PORTA.
;Input ports:
;Output ports:
                     On-board LEDs connected to PORTB.
;Subroutines:
                     SWITCH.
                     PRESS.
                     RELEASE.
;Included files:
                     m2560def.inc
Other information:
;Changes in program:
     File Created (2019-09-18)
          Program is runnable (2019-09-18)
.include"m2560def.inc"
ser r16
out DDRB, r16
out PORTB, r16
ldi r16, 1
ldi r17, 0b11111110
out DDRA, r17
ldi r18, 0
SWITCH:
       com r18
       out PORTB, r18
```

com r18

in r17, PINA cpi r17, 0b00000000 breq PRESS

rjmp RELEASE

PRESS:

cpi r16, 1 breq TRUE

DONE_1: rjmp SWITCH

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RELEASE:

cpi r16, 0 breq FALSE

DONE_2: rjmp SWITCH

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TRUE:

ldi r16, 0 inc r18 rjmp DONE_1

FALSE:

ldi r16, 1 inc r18 rjmp DONE_2