



Report

Laboratory 3



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Term: HT 2017

Course: 1DT301 - Computer
Technology I

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1 Assignment 1

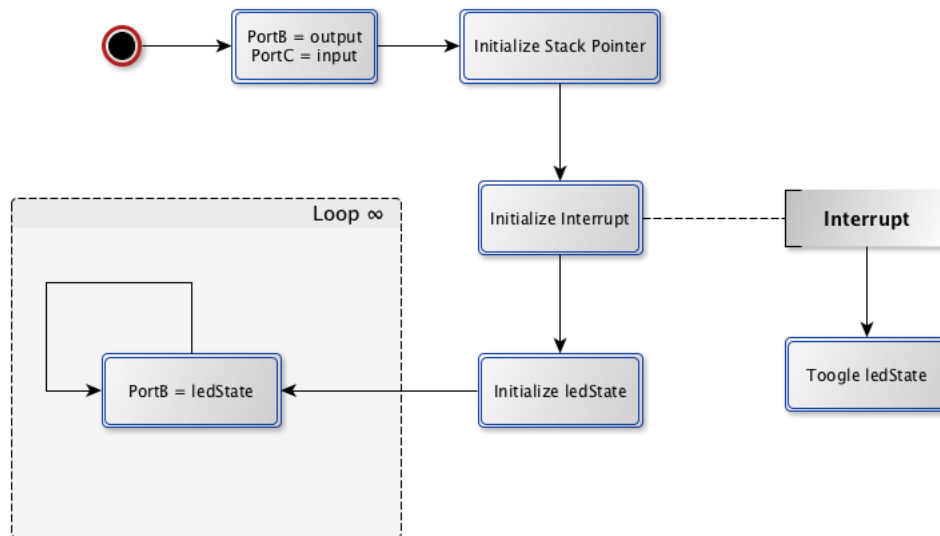


Figure 1: Toggle LED0 on Switch pressed using interrupt

[illegible]

[illegible]

2 Assignment 2

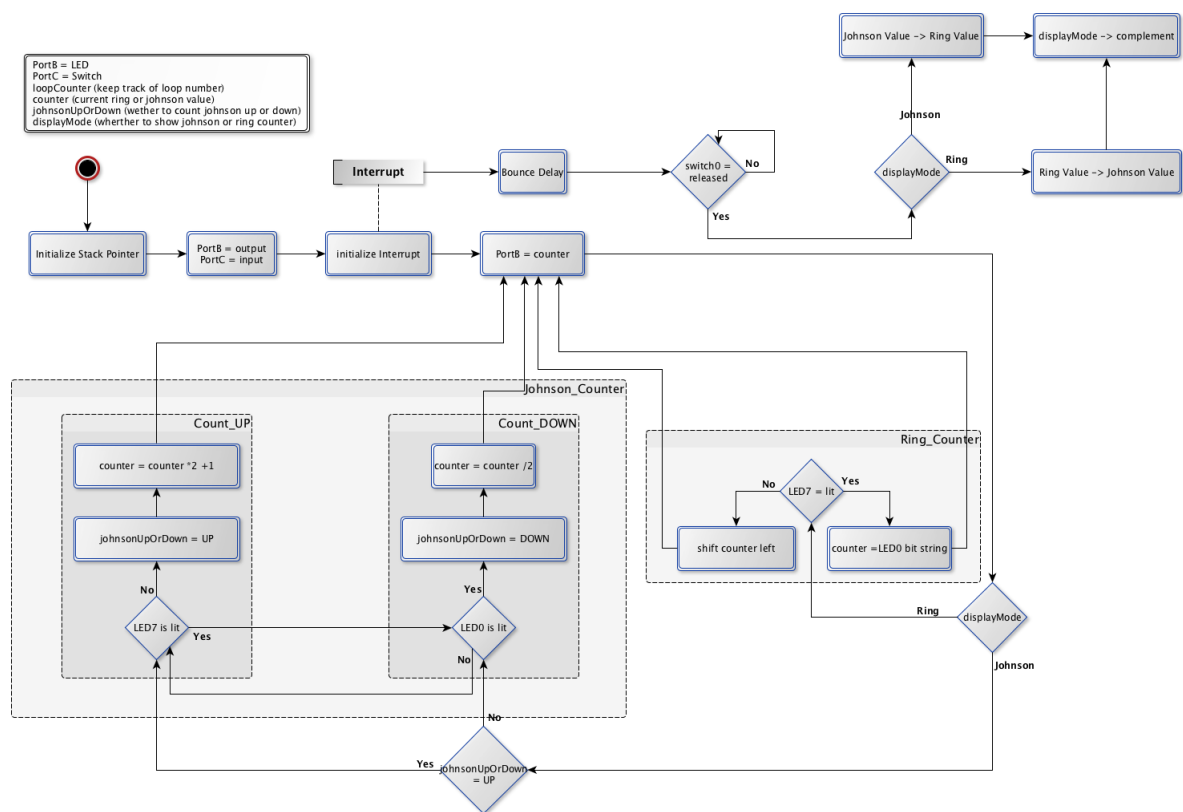


Figure 2: Johnson/Ring counter toggle using interrupt

[illegible]

3 Assignment 3

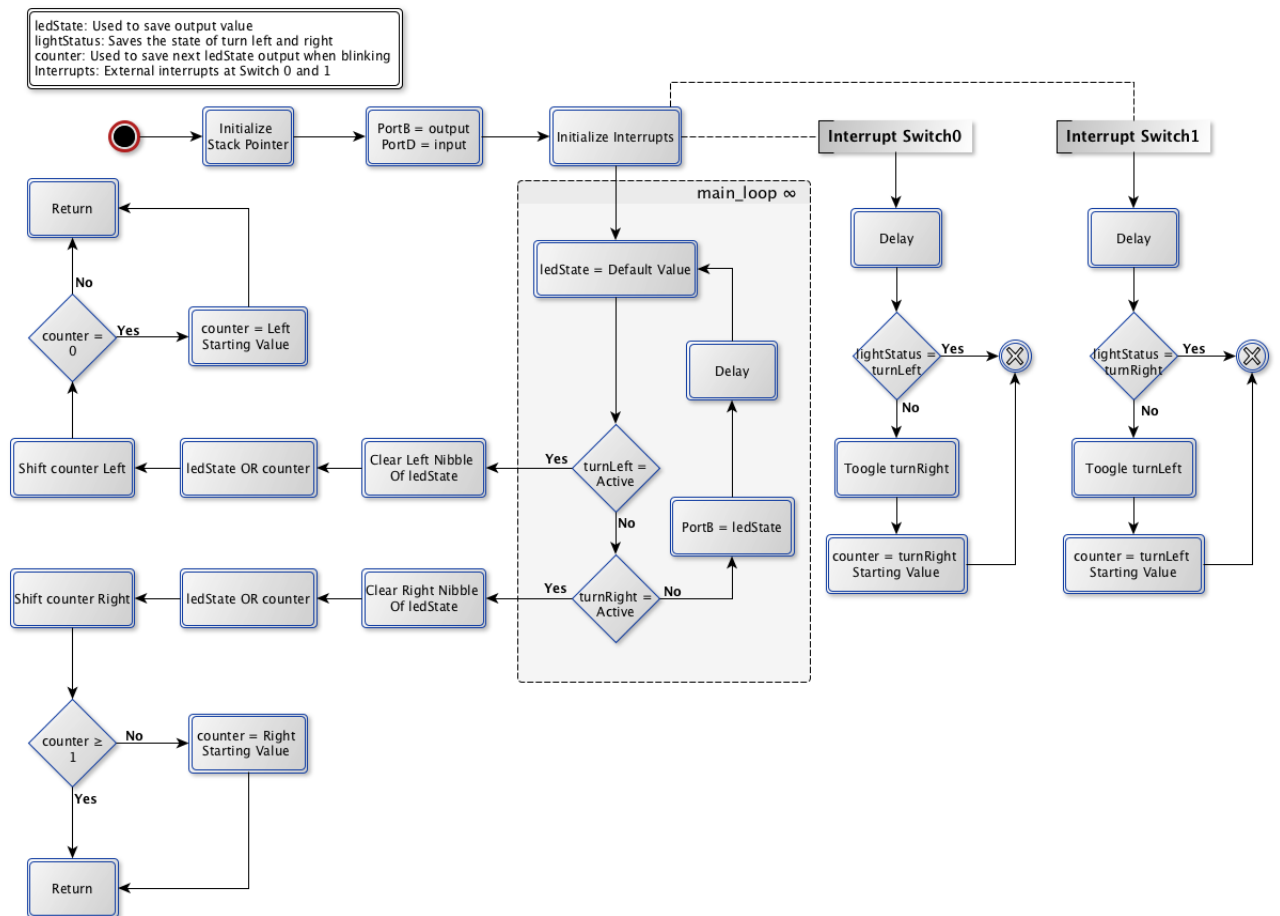
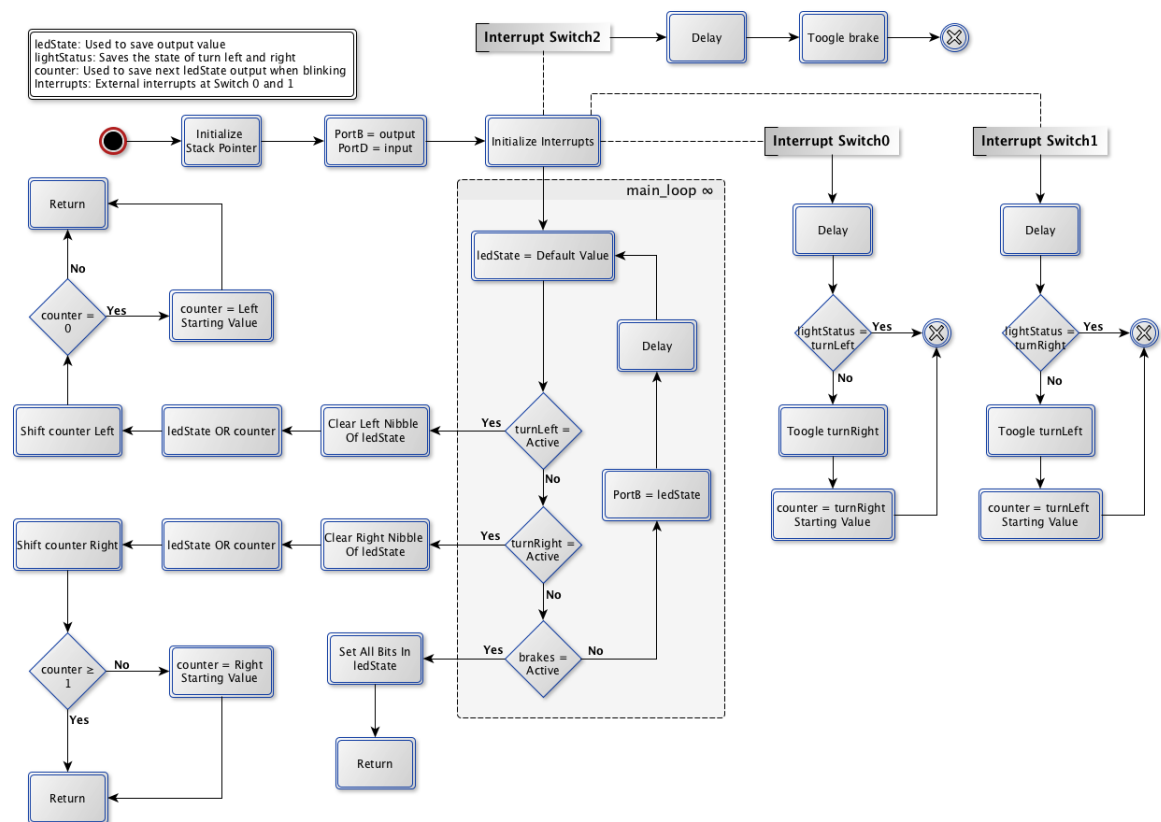


Figure 3: Simulating rear lights blink right/blink left

[illegible]

[illegible]

4 Assignment 4



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>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
2 ; IDT301, Computer Technology I
3 ; Date: 2017-09-25
4 ; Author:
5 ; Caroline Nilsson (cn222nd)
6 ; Daniel Alm Grundström (dg222dw)
7 ;
8 ; Lab number: 3
9 ; Title: Interrupts
10 ;
11 ; Hardware: STK600, CPU ATmega2560
12 ;
13 ; Function: Simulates the rear lights on a car using LED.
14 ; Default light -> back lights
15 ; Holding down Switch0 -> blinking right
16 ; Holding down Switch1 -> blinking left
17 ; Holding down Switch2 -> brake
18 ; but not possible to blink right and left
19 ; at the same time but possible to brake and
20 ; blink
21 ;
22 ; Input ports: PORTD
23 ;
24 ; Output ports: PORTB
25 ;
26 ; Subroutines: blink_left toggle LED for left blinking
27 ; blink_right toggle LED for right blinking
28 ; brake toggle LEDs for braking
29 ; led_out outputs ledState to PORTB
30 ; delay_led delay to show changes made to LEDs
31 ; 500 ms
32 ; delay_switch delay to avoid bouncing
33 ; 100 ms
34 ;
35 ; Included files: m2560def.inc
36 ;
37 ; Other information: back lights-> LED = 0,1,6,7 is lit
38 ; blink right-> LED = 6,7 lit
39 ; and toggle between having LED 3,2,1,0 lit
40 ; blink left-> LED = 0,1 lit
41 ; and toggle between having LED 4,5,6,7 lit
42 ; brake-> lit all LEDs
43 ;
44 ; Changes in program: 2017-09-20

```


[illegible]