CPE301 – SPRING 2019

Design Assignment 2A TASK1

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Primary Github address: https://github.com/yeeun219/submission\_da.git

Directory: cpe301\DesignAssignments\DA2A\T1. cpe301\DesignAssignments\DA2A\T1

1. **COMPONENTS LIST AND CONNECTION BLOCK DIAGRAM w/ PINS**

REPEAT ; //blinking LED

DELAY\_1: //Create a Delay of 60%DC

DELAY\_2: //Create a Delay of 40%DC

DELAY\_3: //Create a Delay of 1s

1. **DEVELOPED CODE OF TASK 1**

;

; AssemblerApplication15.asm

;

; Created: 2019-03-09 오후 5:22:36

; Author : llje2

;

; Replace with your application code

.INCLUDE "M328PDEF.INC" //Include device file

.CSEG

.ORG 0x0000 //Beginning of Program Memory

SBI DDRB,5 //TURN OFF THE D1LED

SBI PORTB,5

CBI DDRC,2 //make portc.2 input

SBI DDRB, 2

REPEAT: SBI PORTB, 2 //Sets pin (PB2) high

RCALL DELAY\_1 //0.435SEC DELAY (60%DC)

CBI PORTB, 2 //Sets pin (PB2) low

RCALL DELAY\_2 //0.29SEC DELAY (40%DC)

SBIC PINC,2 //IF BUTTON IS PRESSED,THEN NEXT INSTRU(INTERUPTION)

RJMP REPEAT //Repeat continuously

CBI PORTB,2

RCALL DELAY\_3 //1.25SEC delay

RCALL DELAY\_2

RJMP REPEAT

//-------------------------------------------------------------------------------------

DELAY\_1: LDI R16, 40 //Create a Delay of 60%DC

LOOP1\_1: LDI R17, 87

LOOP2\_1: LDI R18, 109

LOOP3\_1: NOP

DEC R18

BRNE LOOP3\_1

DEC R17

BRNE LOOP2\_1

DEC R16

BRNE LOOP1\_1

RET

DELAY\_2: LDI R16, 23 //Create a Delay of 40%DC

LOOP1\_2: LDI R17, 58

LOOP2\_2: LDI R18, 72

LOOP3\_2: NOP

DEC R18

BRNE LOOP3\_2

DEC R17

BRNE LOOP2\_2

DEC R16

BRNE LOOP1\_2

RET

DELAY\_3: LDI R16, 80 //Create a Delay of 1s

LOOP1\_3: LDI R17, 200

LOOP2\_3: LDI R18, 250

LOOP3\_3: NOP

DEC R18

BRNE LOOP3\_3

DEC R17

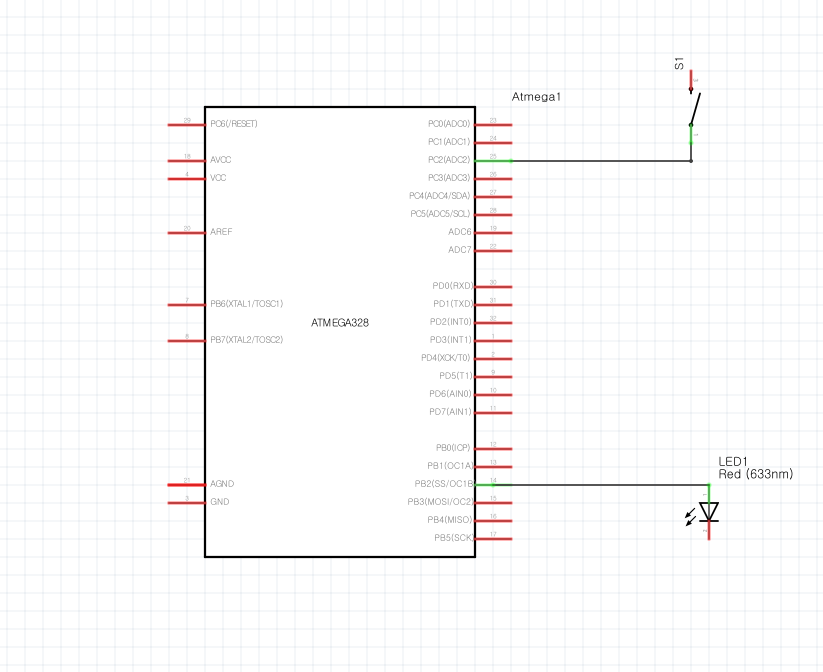
BRNE LOOP2\_3

DEC R16

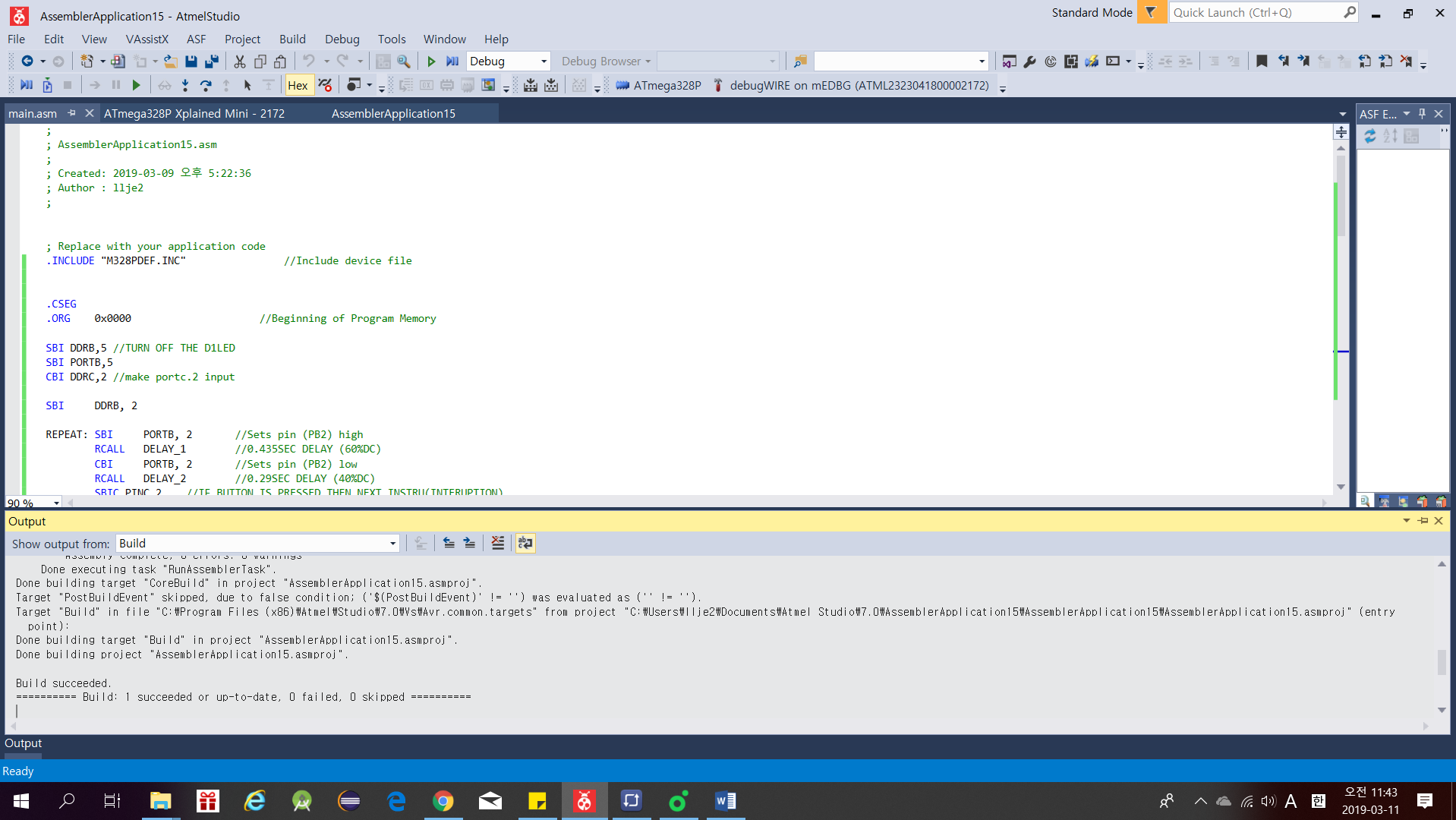
BRNE LOOP1\_3

RET

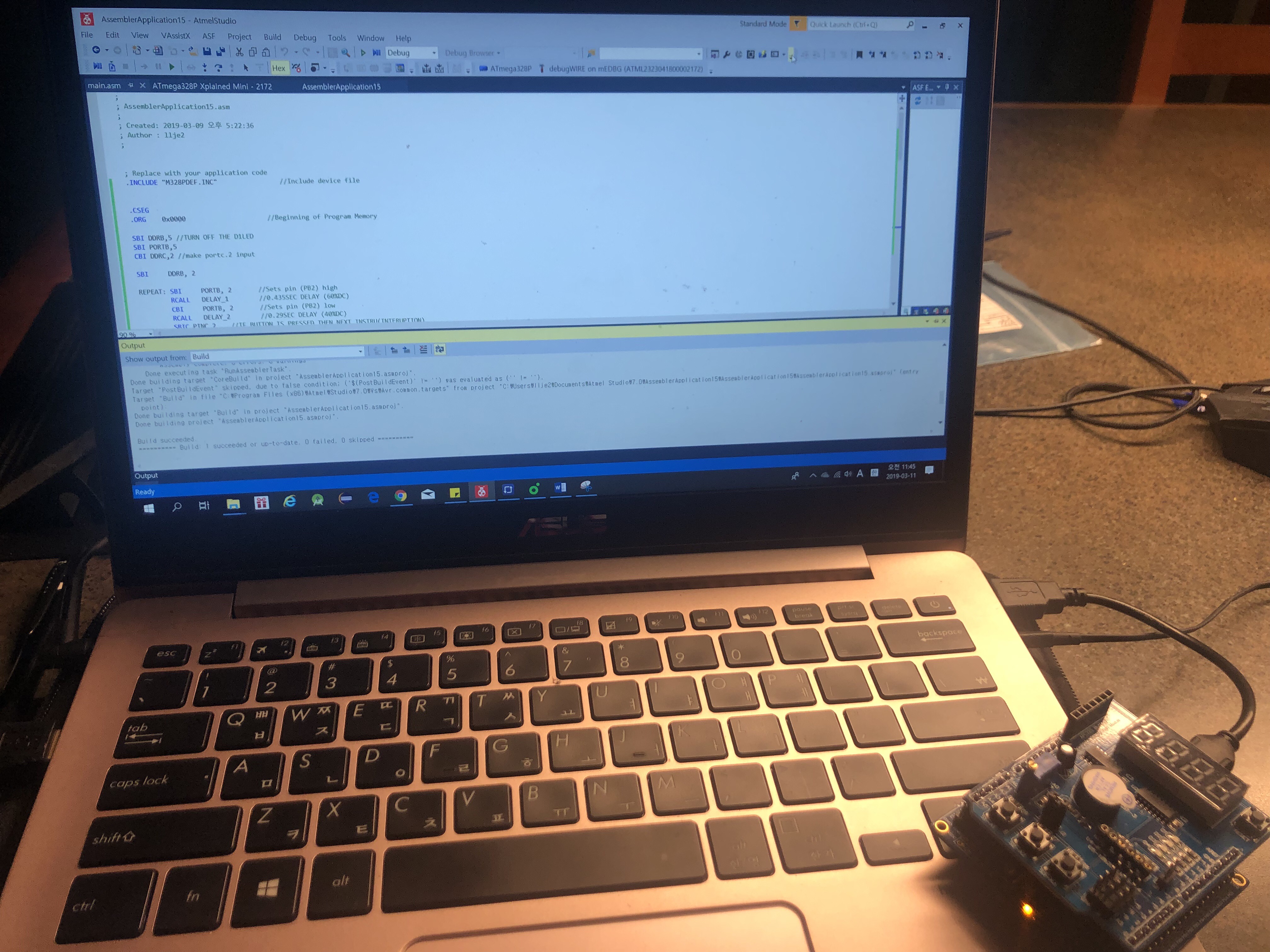
1. **SCHEMATICS**



1. **SCREENSHOTS OF EACH TASK OUTPUT (ATMEL STUDIO OUTPUT)**



1. **SCREENSHOT OF EACH DEMO (BOARD SETUP)**



1. **VIDEO LINKS OF EACH DEMO**

https://youtu.be/fEA5JhAXYyA

1. **GITHUB LINK OF THIS DA**

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Directory: cpe301\DesignAssignments\DA2A\T1. cpe301\DesignAssignments\DA2A\T2

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“This assignment submission is my own, original work”.

YEEUNLEE