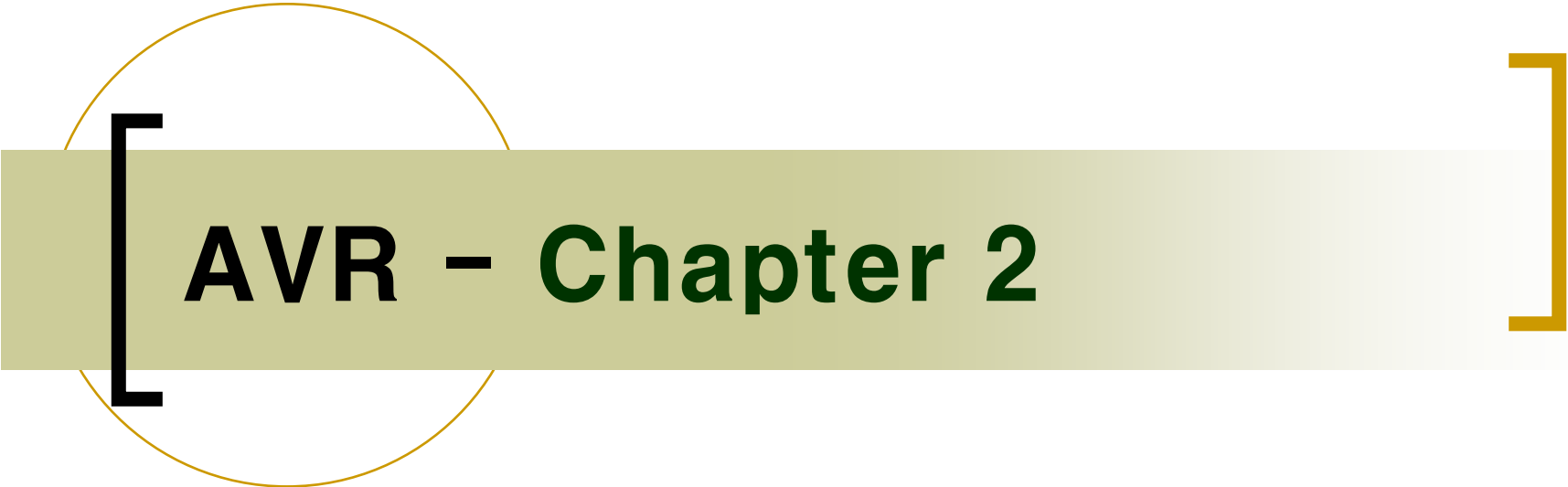




AVR - Chapter 2

류 대 우

davidryu@newtc.co.kr

[자료

]

- **ICC AVR Download Site.**

- http://www.imagecraft.com/pub/iccv7avr_demo.exe

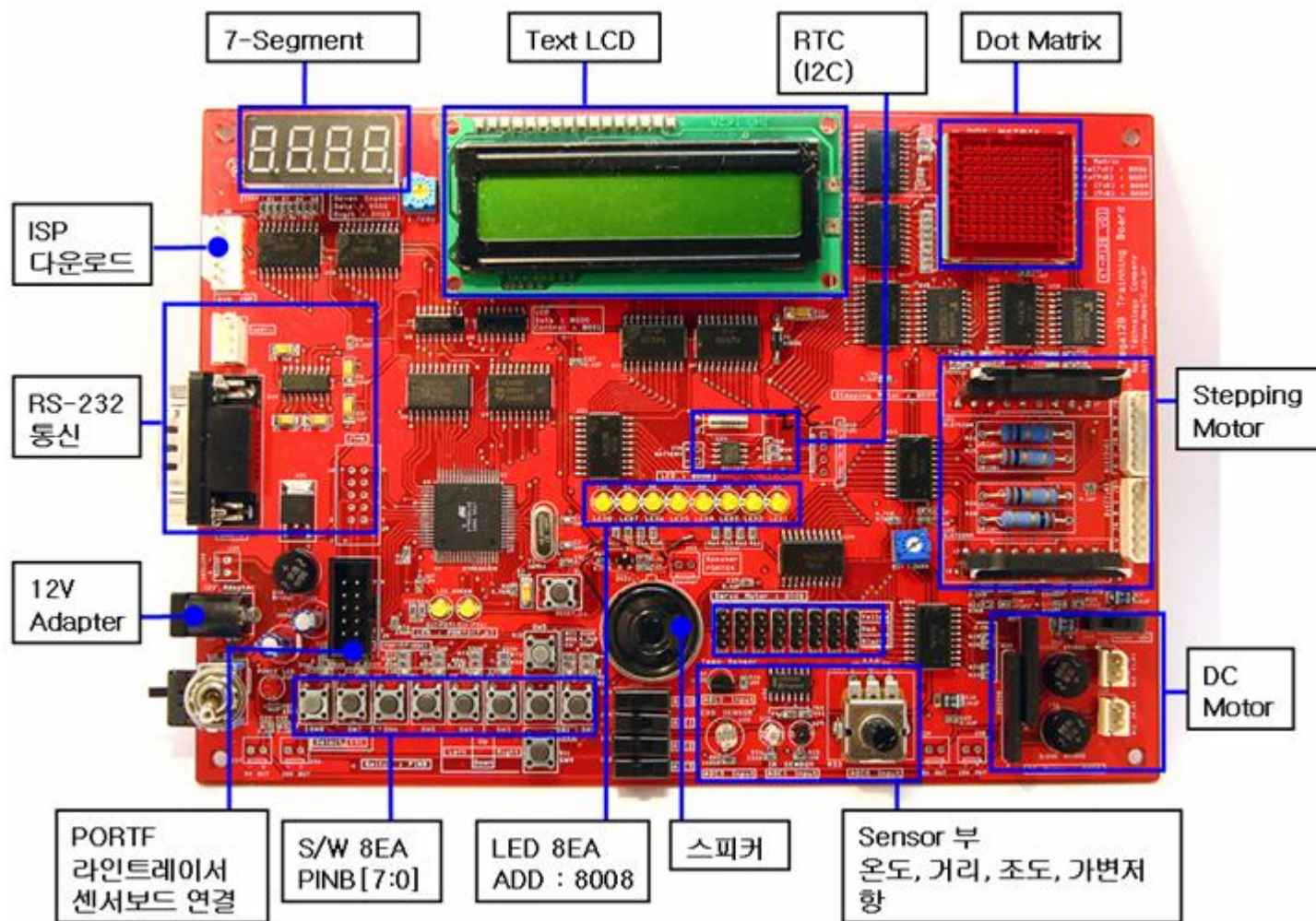
- **AVR DataSheet.**

- http://atmel.com/dyn/resources/prod_documents/doc2467.pdf

- **KT-M128 제작 회사.**

- <http://www.newtc.co.kr>

[KT-M128



[KT-M128 트레이닝 키트 소개]

■ 제품 사양

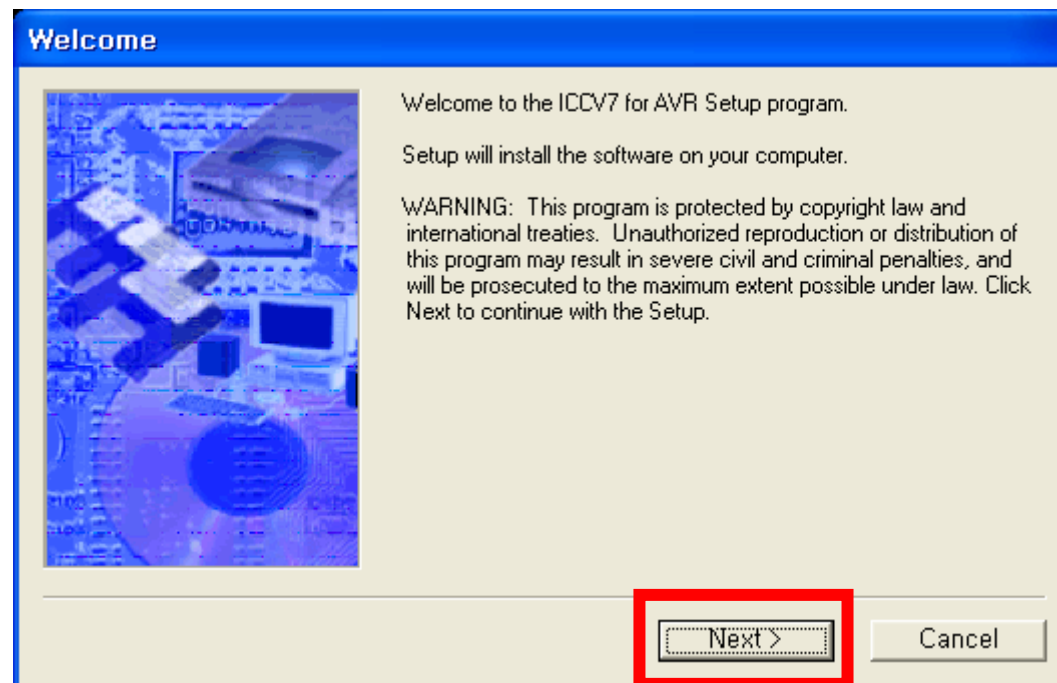
- ATMEL 사의 AVR 마이크로 컨트롤러 ATmega128 사용
- Display
 - Text LCD (Graphic LCD 사용 가능)
 - 10X10 Dot Matrix
 - 4Digit 7-Segment
- 모터 컨트롤러 내장
 - Stepping Motor 컨트롤러 2ea
 - 소용량 DC Motor 컨트롤러 2ea
 - RC 서보모터 8ea 연결 가능
- 센서
 - 적외선 센서
 - 온도 센서
 - 조도센서

[KT-M128 트레이닝 키트 소개]

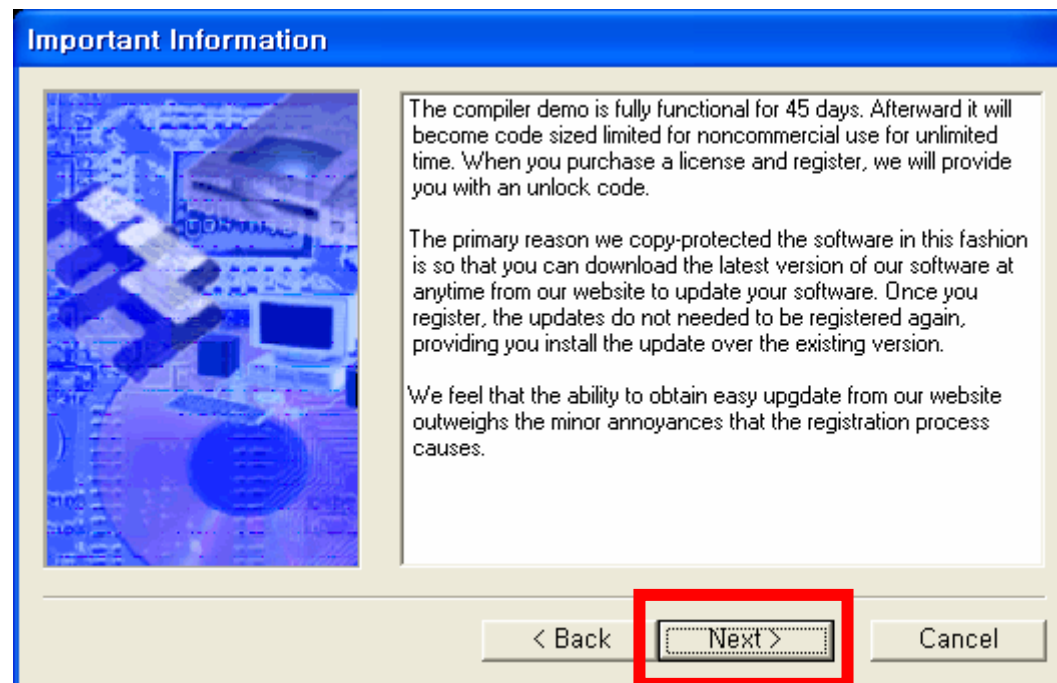
- **입출력 장치**
 - 스위치 8ea
 - LED 8ea
 - RS-232 통신
- **기타 장치**
 - RTC DS1307 내장
 - 스피커
- **전원 보호 회로 내장**
- **보드 사이즈 200 * 140**

[개발 환경 구축]

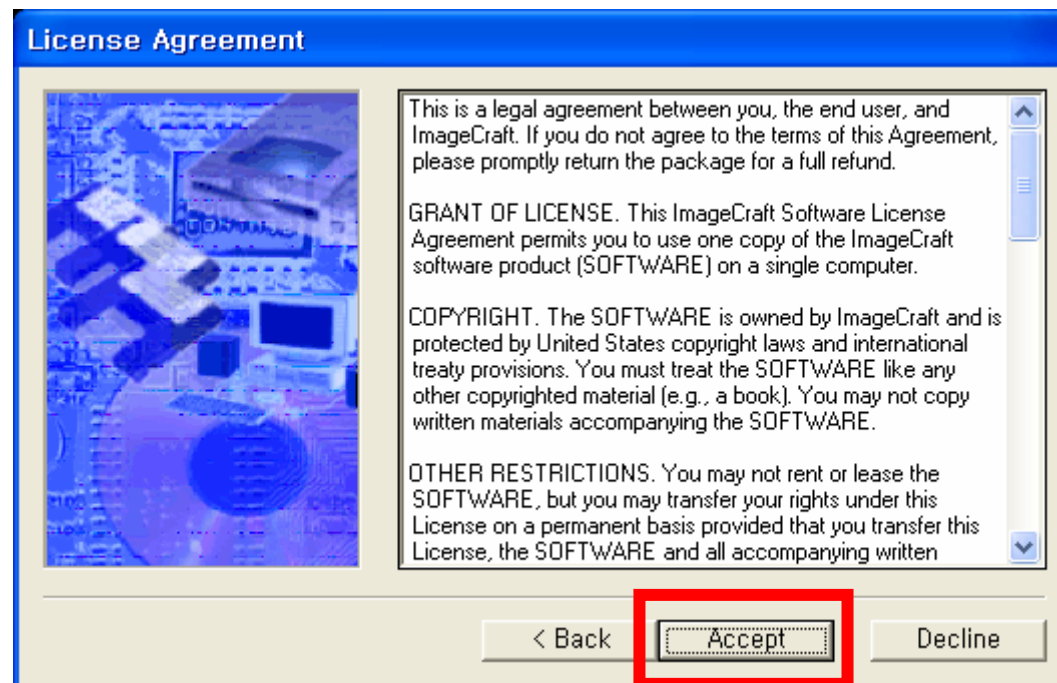
■ ICC AVR 설치



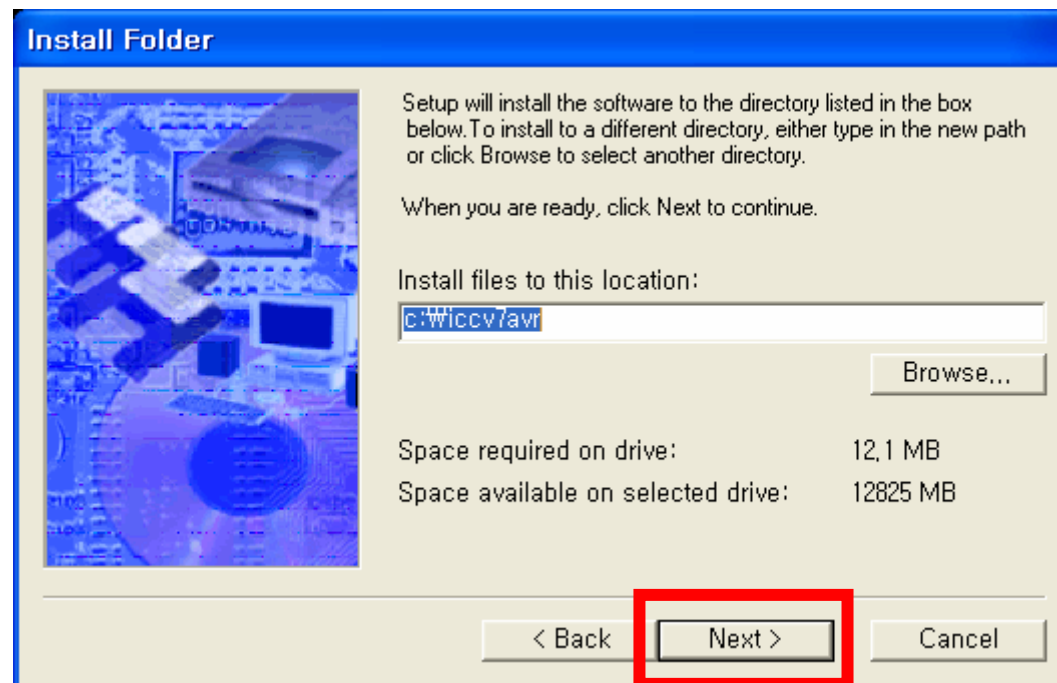
[개발 환경 구축



[개발 환경 구축



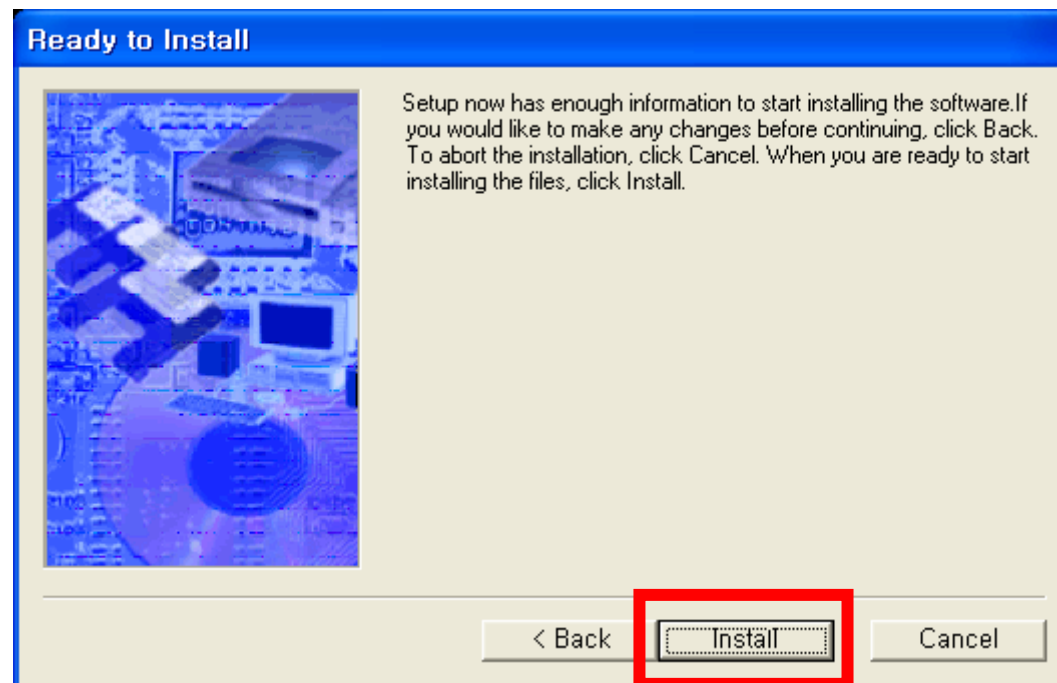
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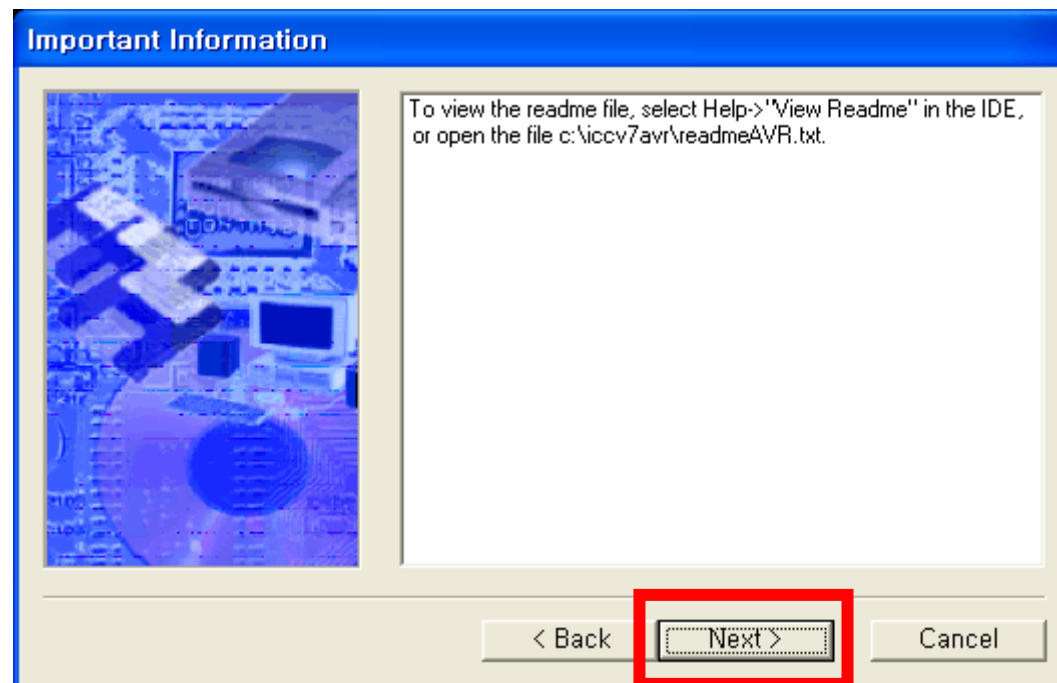
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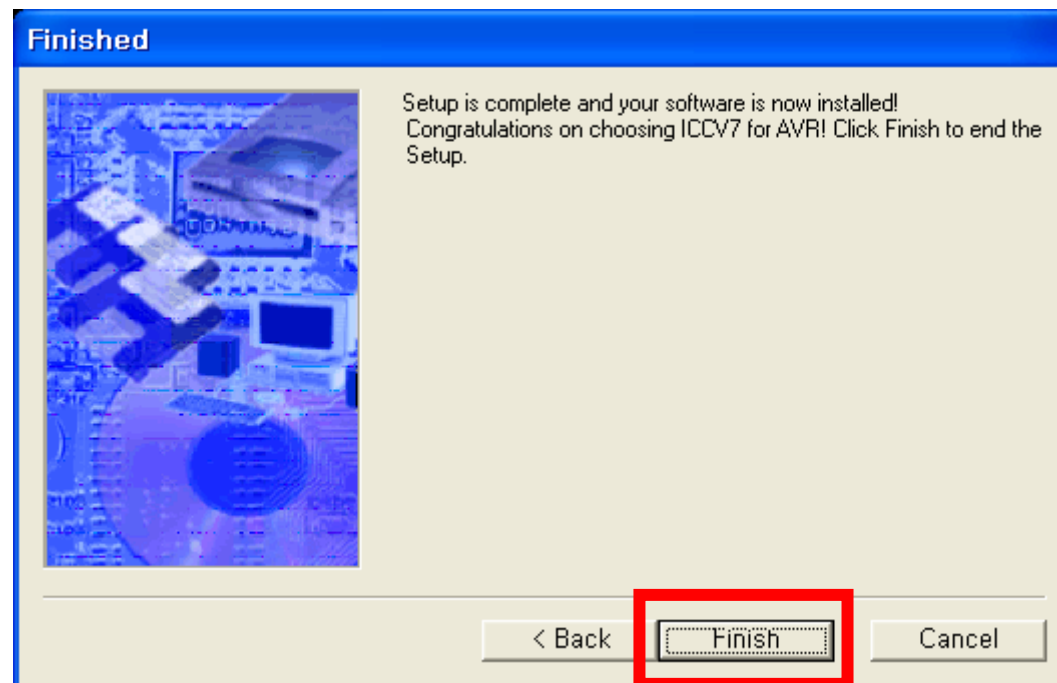
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[개발 환경 구축

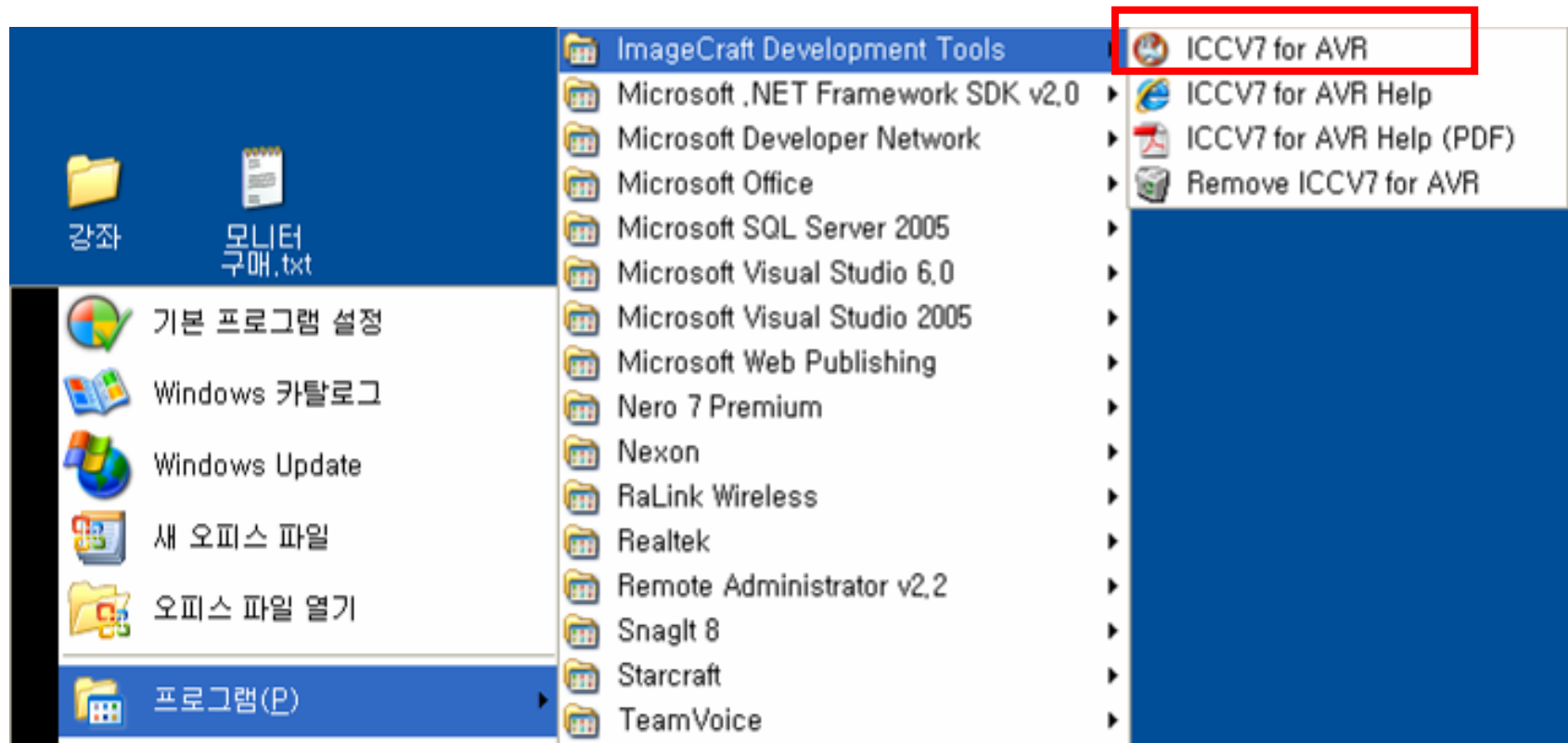


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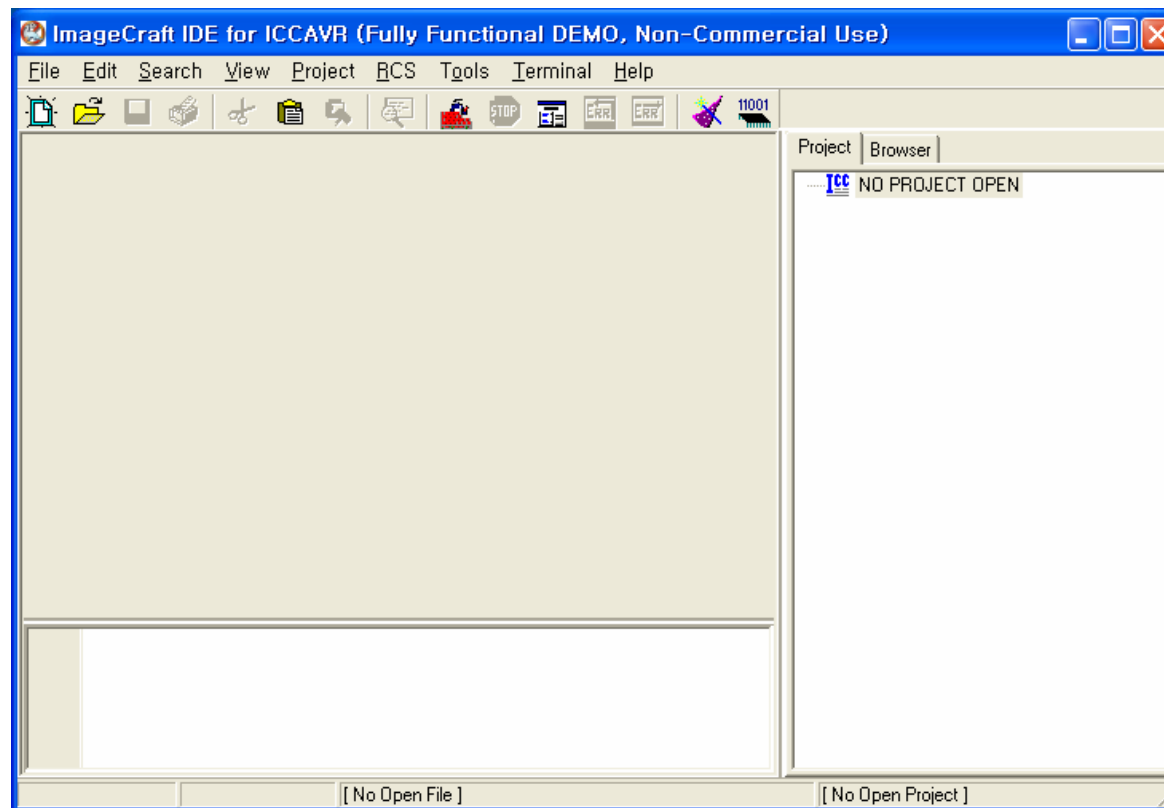
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■ ICC AVR 실행



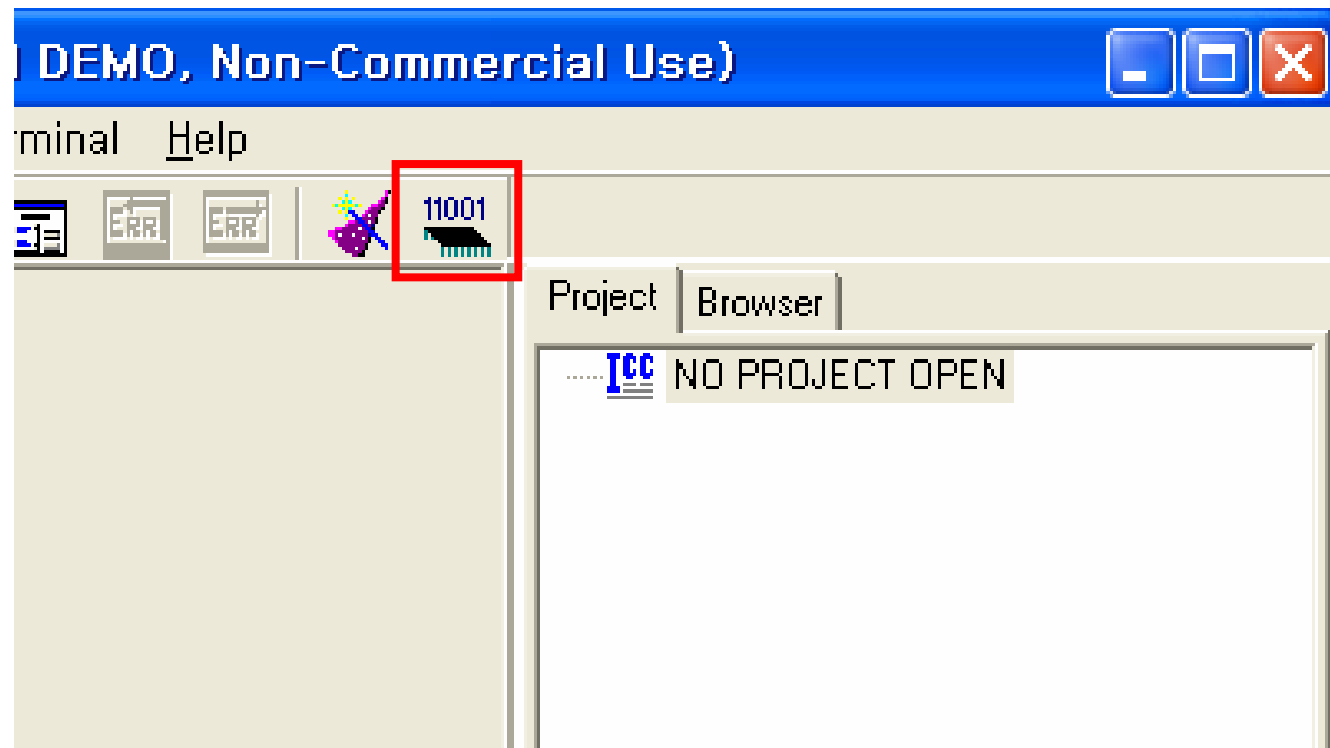
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- ICC AVR 실행

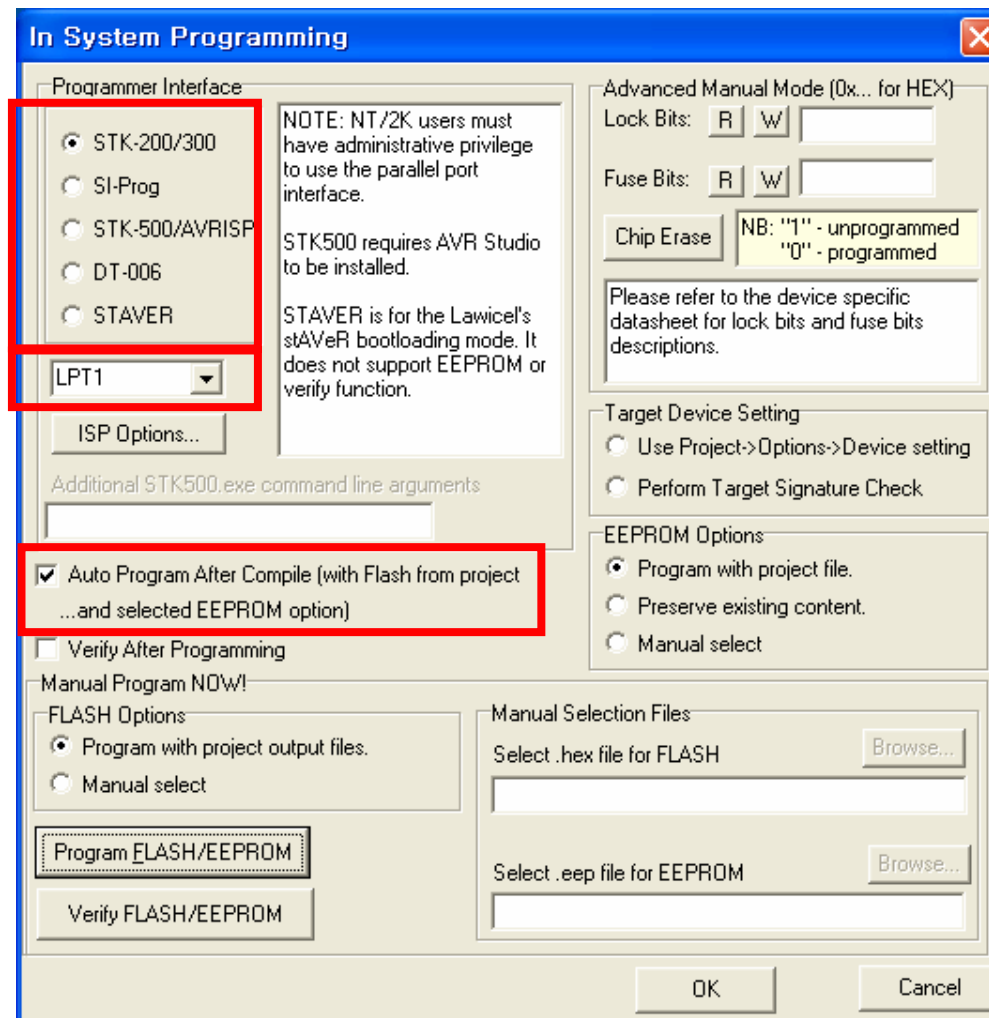


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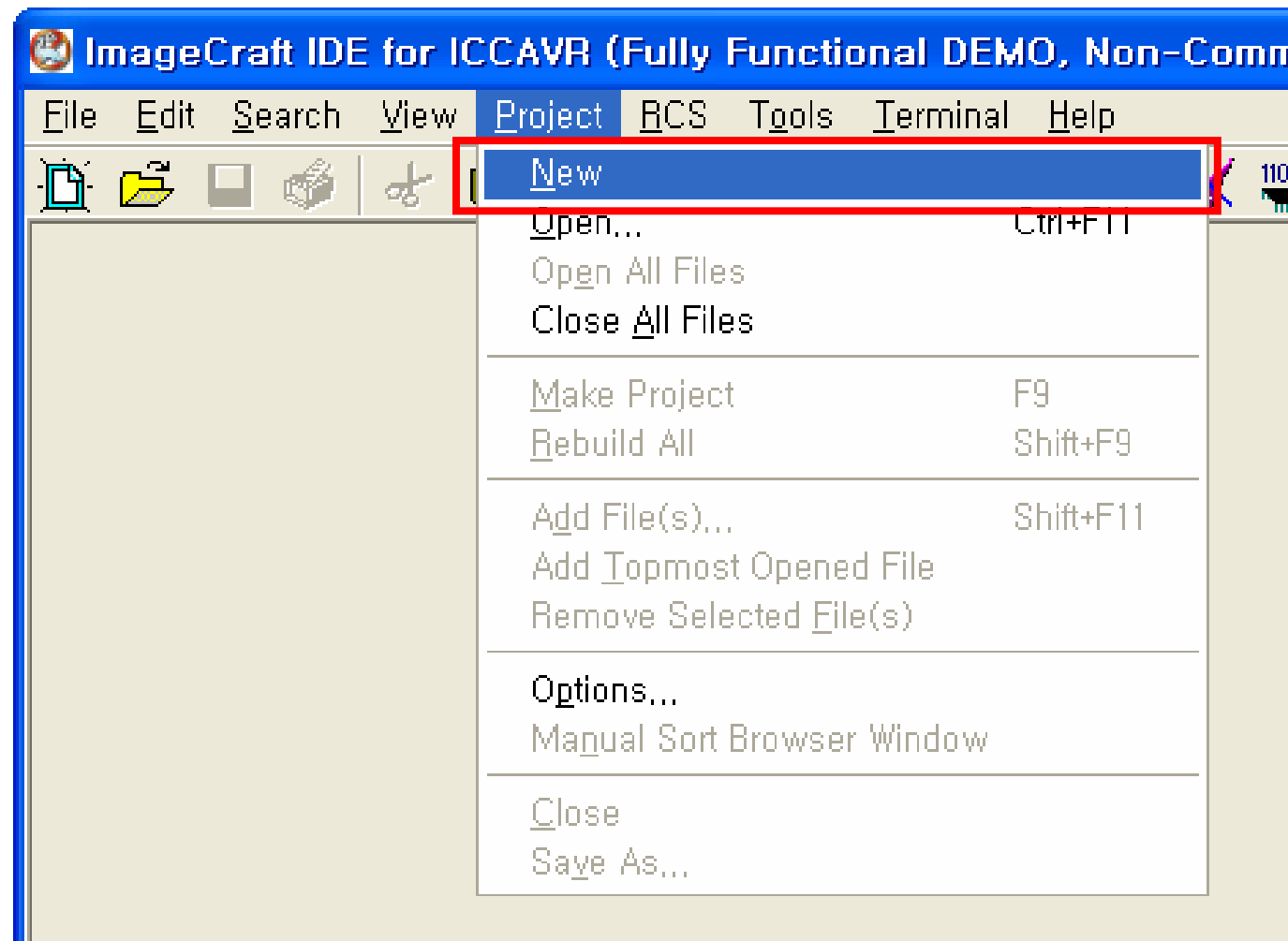
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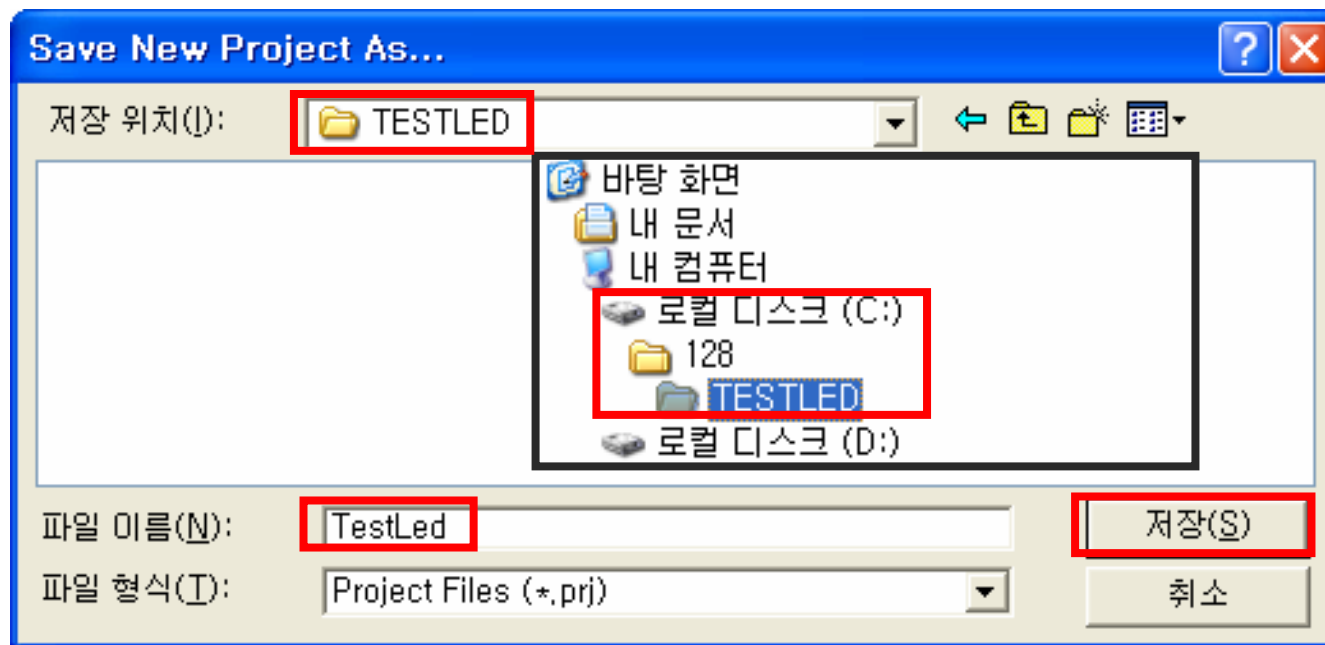
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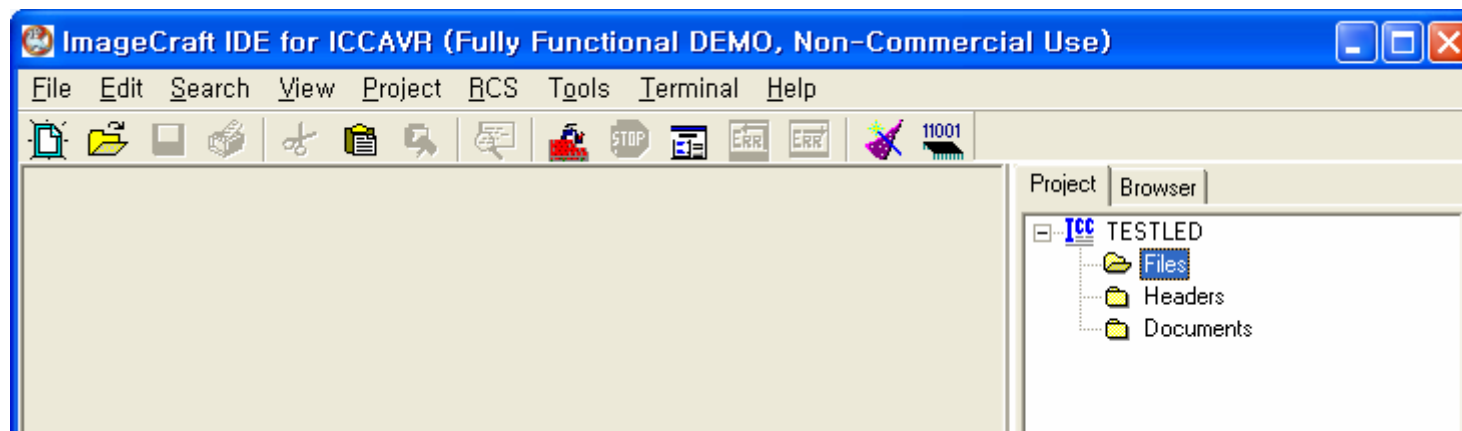


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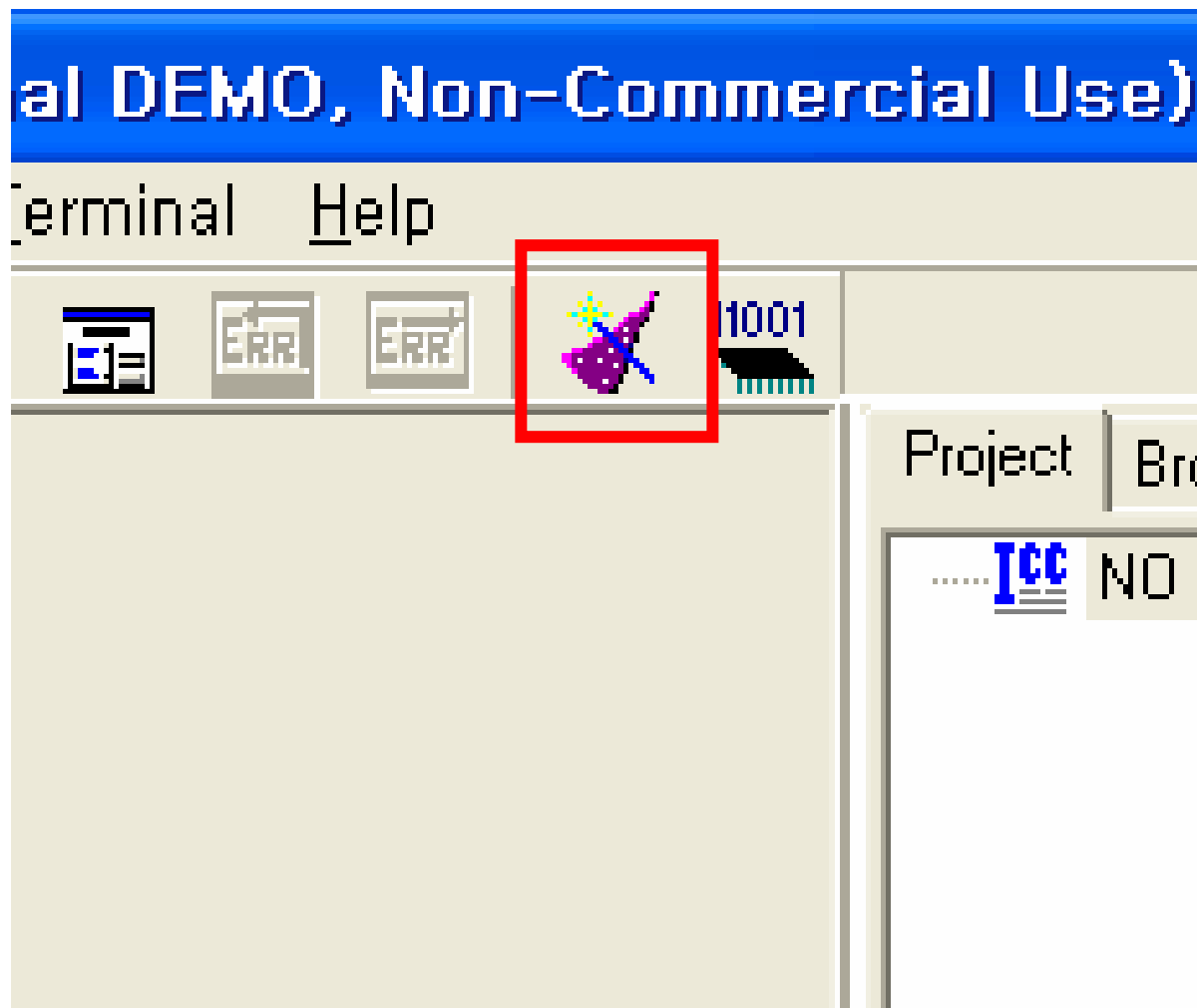
]



- 오른쪽 창에서 TESTLED가 열리는 것을 확인 할 수 있다.

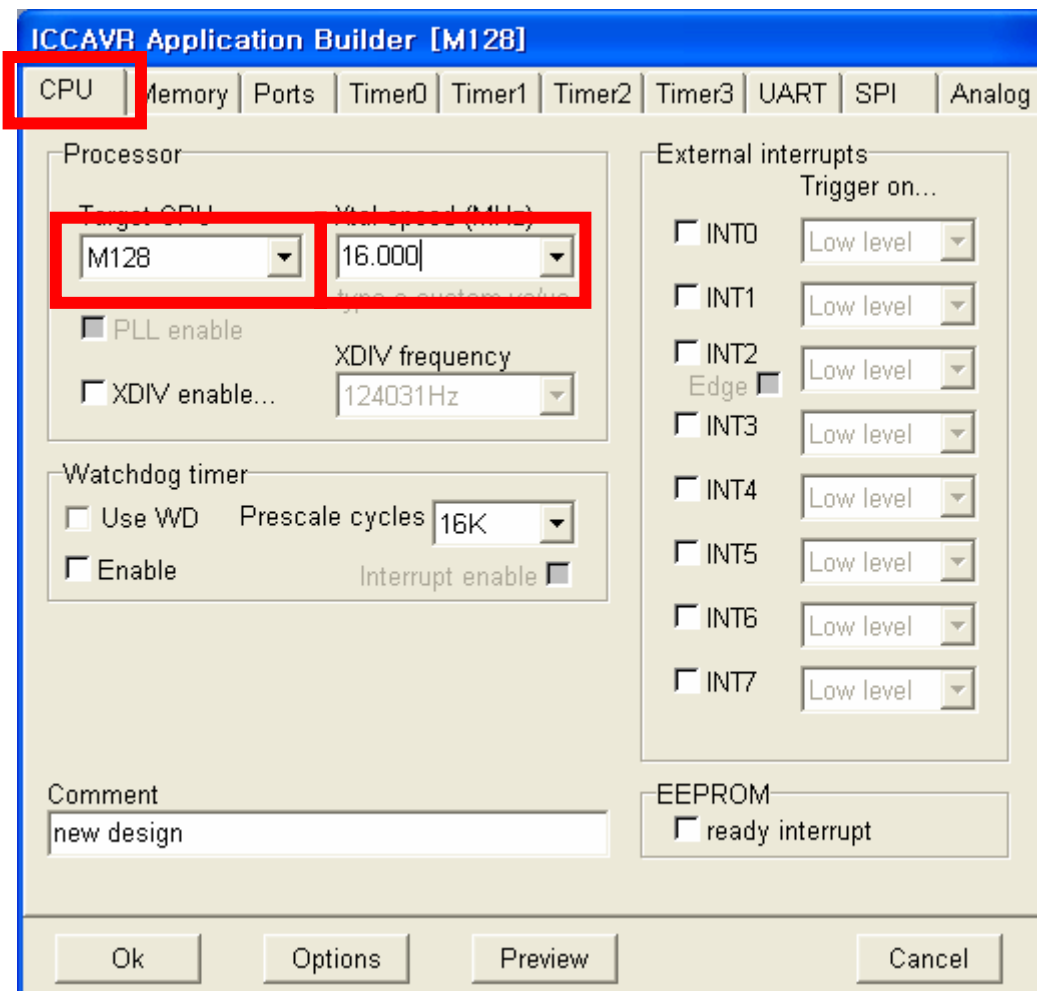
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ICCAVR Application Builder [M128]

CPU **Memory** Ports Timer0 Timer1 Timer2 Timer3 UART SPI Analog

External memory

☒ Enable external memory

External memory page configuration
NA / 0x1100-0xFFFF

☐ Wait states

Lower wait states: None Upper wait states: None

Absolute address definitions

Address	Name	Type	Count
0x8000	LCD_DATA	signed char	1

Add

0x8000, LCD_DATA, unsigned char, 1
0x8001, LCD_CONTROL, unsigned char, 1
0x8002, SS_DATA, unsigned char, 1
0x8003, SS_SEL, unsigned char, 1
0x8004, DM_SEL, unsigned int, 1
0x8006, DM_DATA, unsigned int, 1

Modify

Remove

Ok Options Preview Cancel

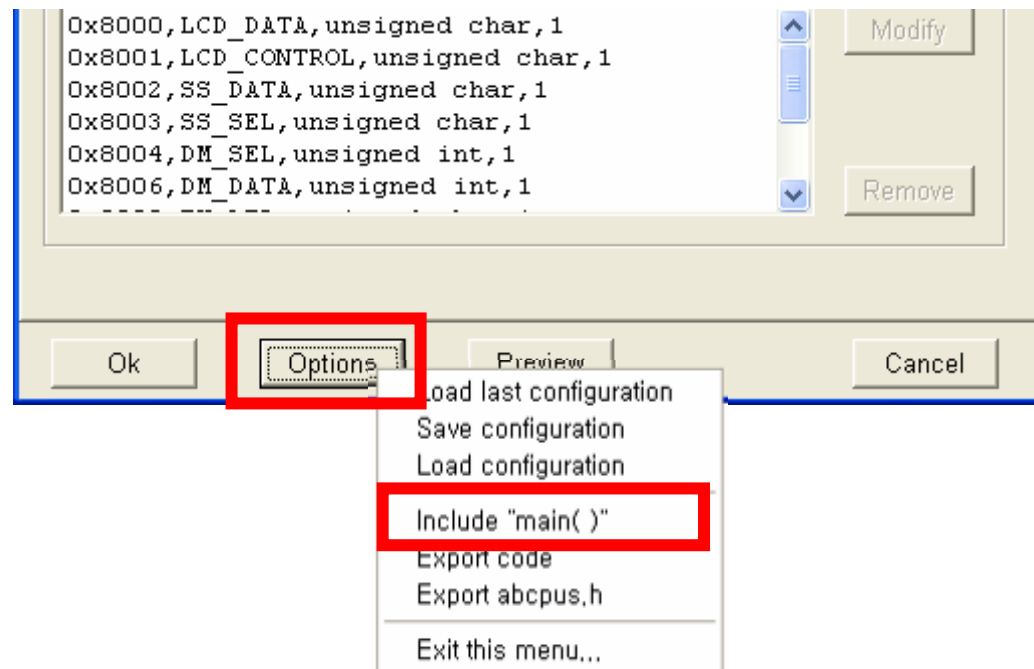
[개발 환경 구축



0x8000,LCD_DATA,unsigned char,1
0x8001,LCD_CONTROL, unsigned char,1
0x8002,SS_DATA, unsigned char,1
0x8003,SS_SEL, unsigned char,1
0x8004,DM_SEL,unsigned int,1
0x8006,DM_DATA,unsigned int,1
0x8008,EX_LED,unsigned char,1
0x8009,EX_MOTOR,unsigned char,1
0x800A,EX_DCMOTOR,unsigned char,1
0x800B,EX_SERVO,unsigned char,1

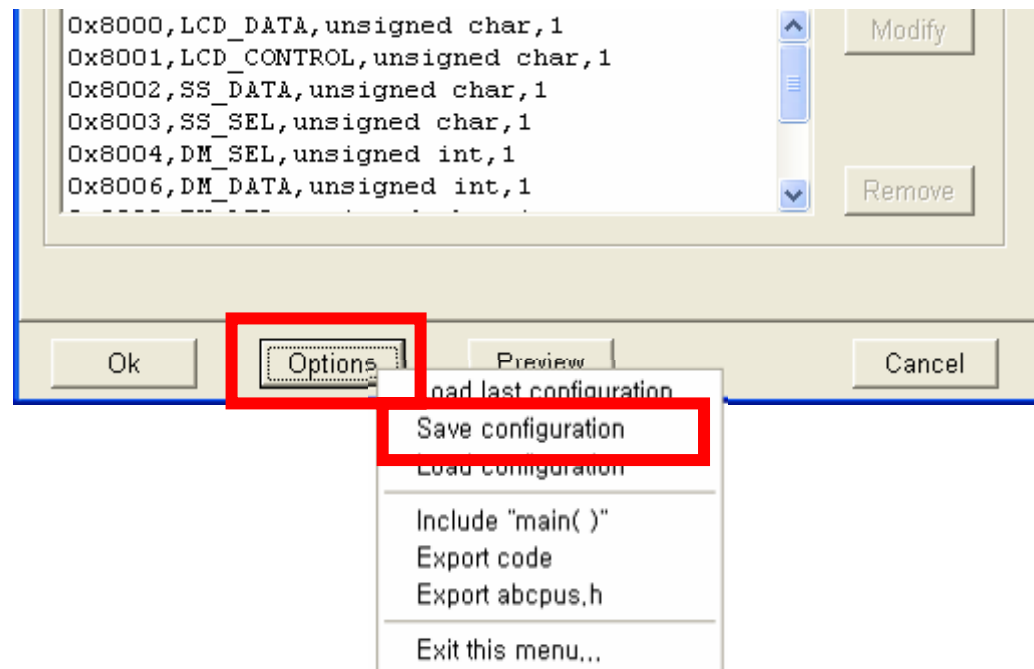
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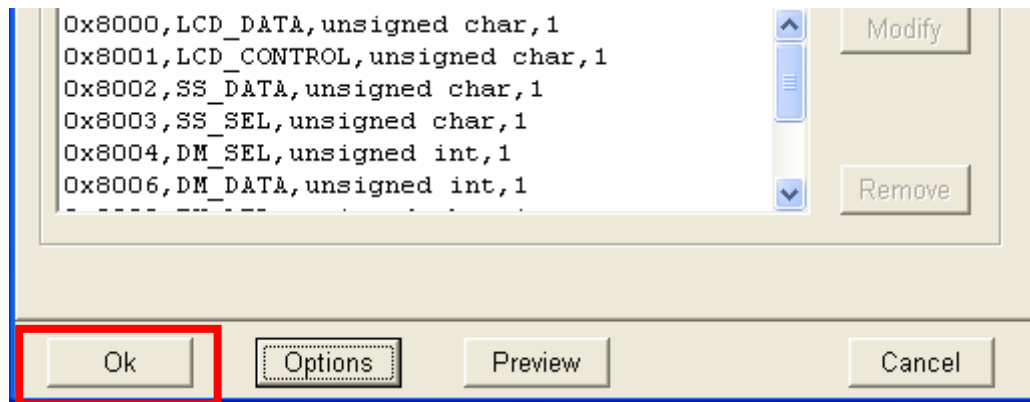
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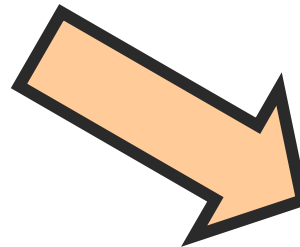
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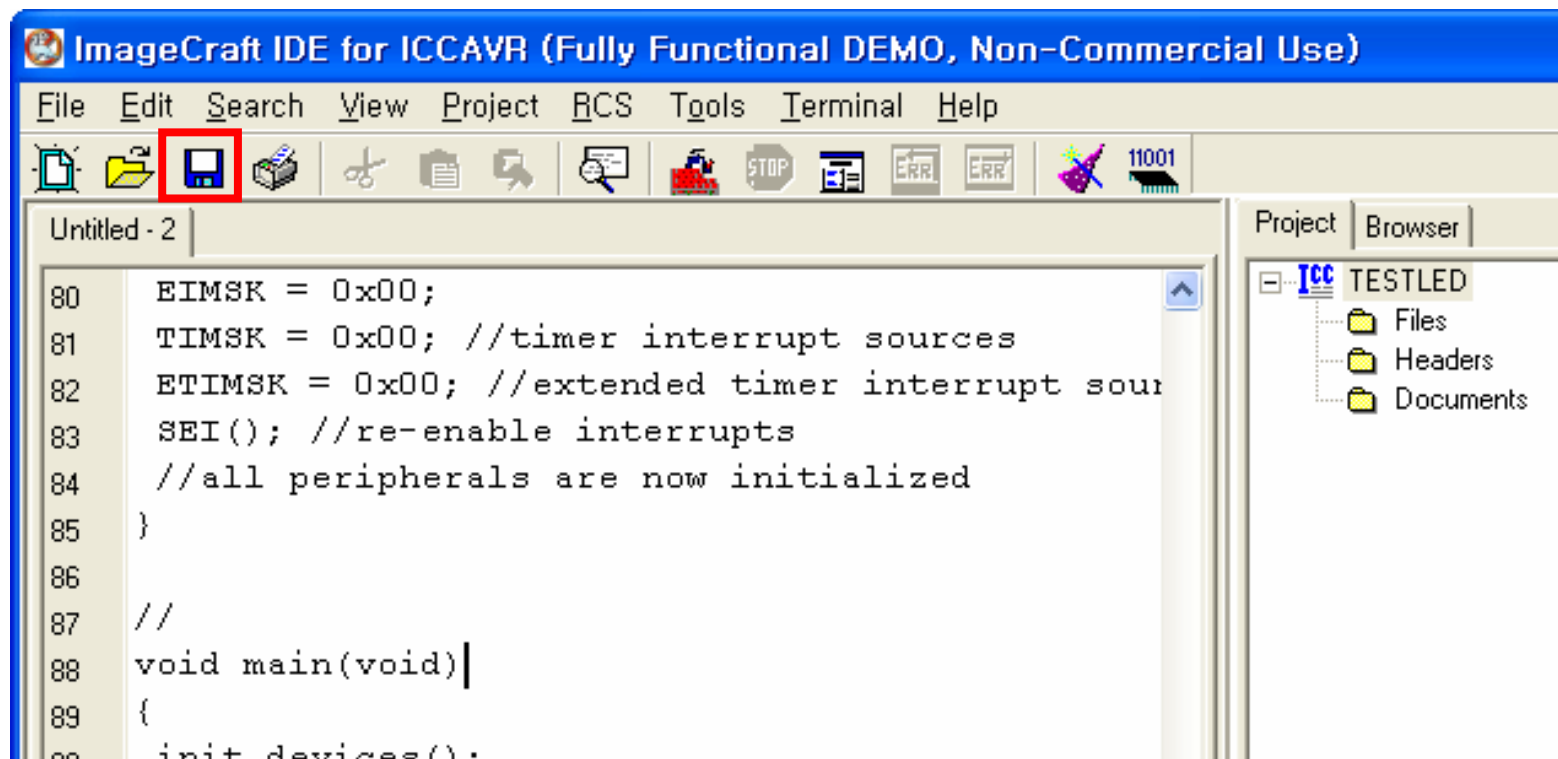
- `void main(void)`
`{`
`init_devices();`
`//insert your functional code here...`
`}`



```
void main(){  
  init_devices();  
  
  while(1){  
    EX_LED = 0xFF;  
  }  
}
```

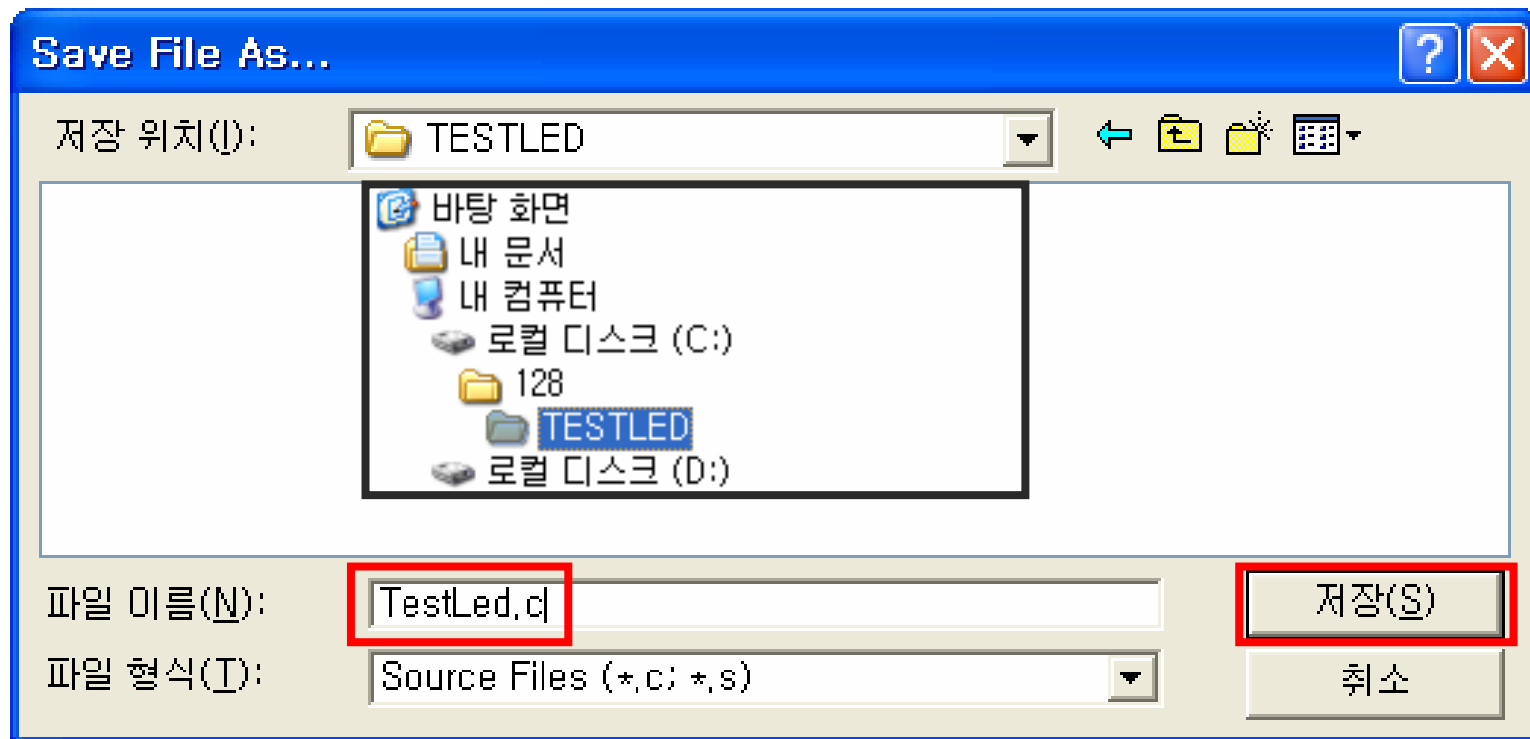
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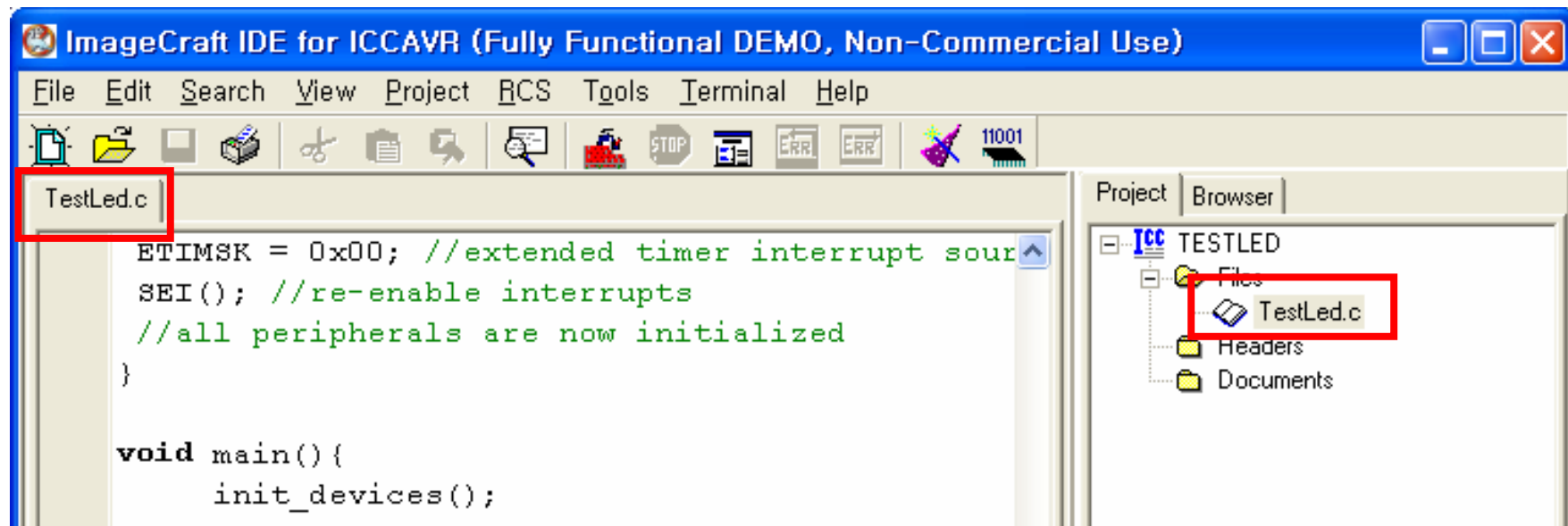
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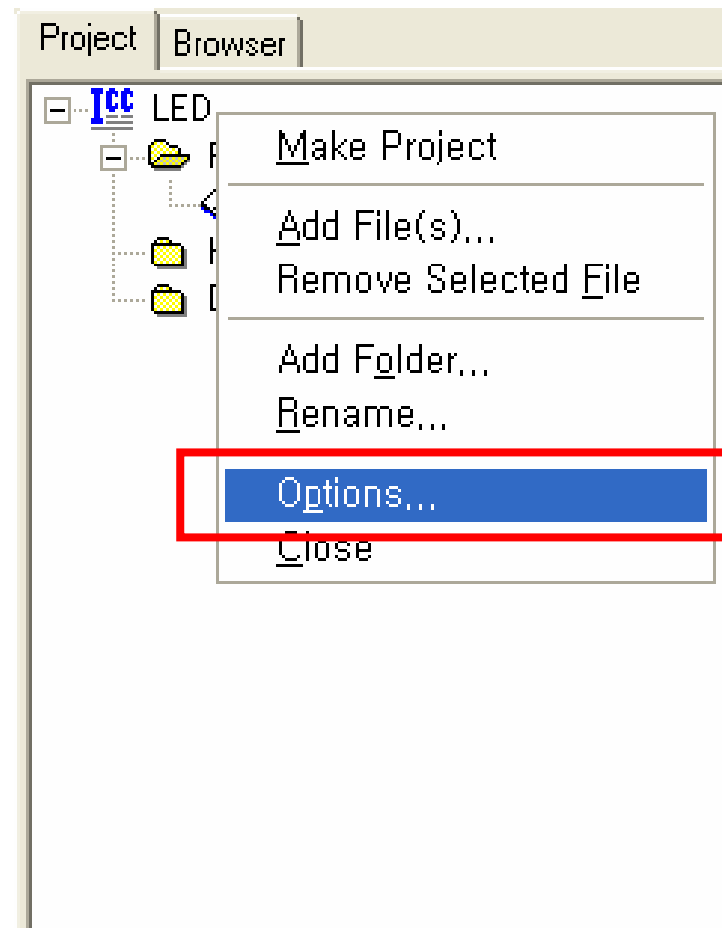


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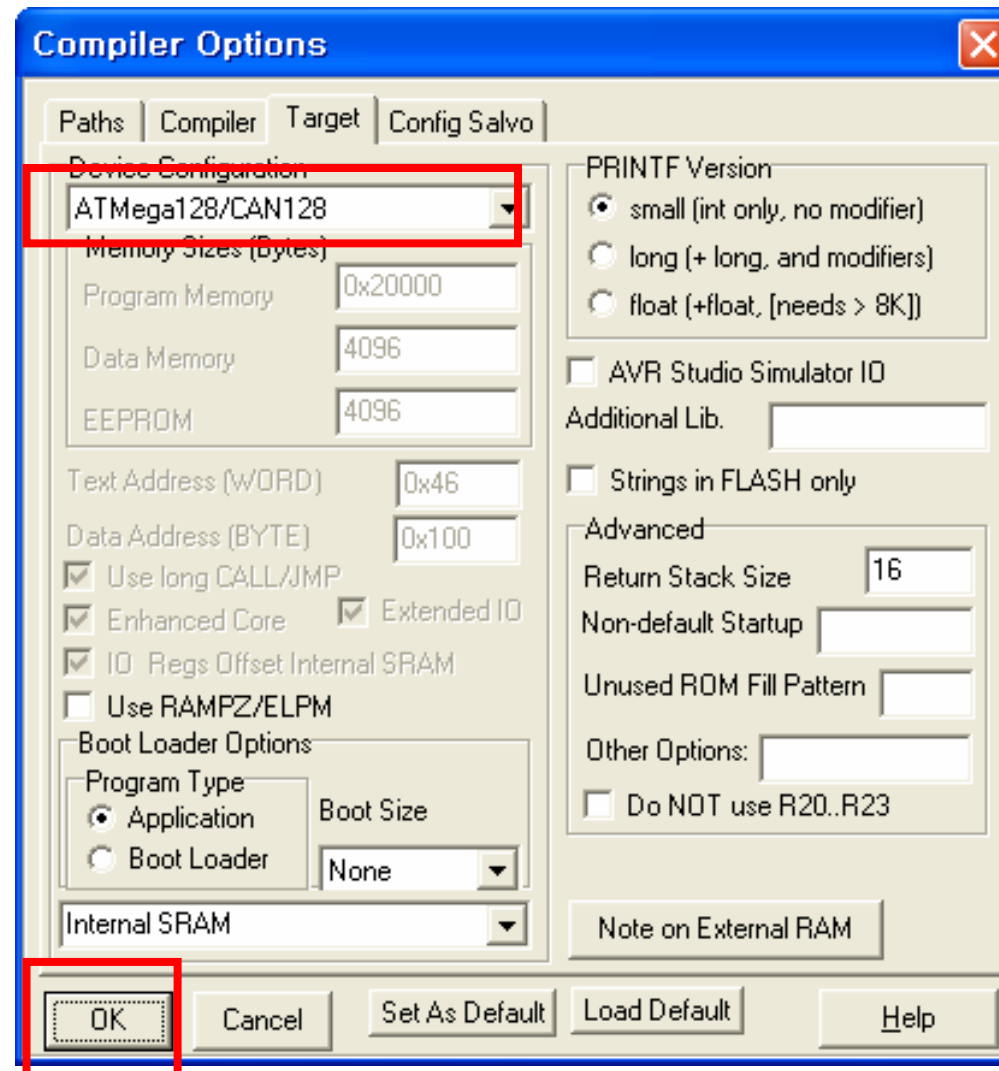
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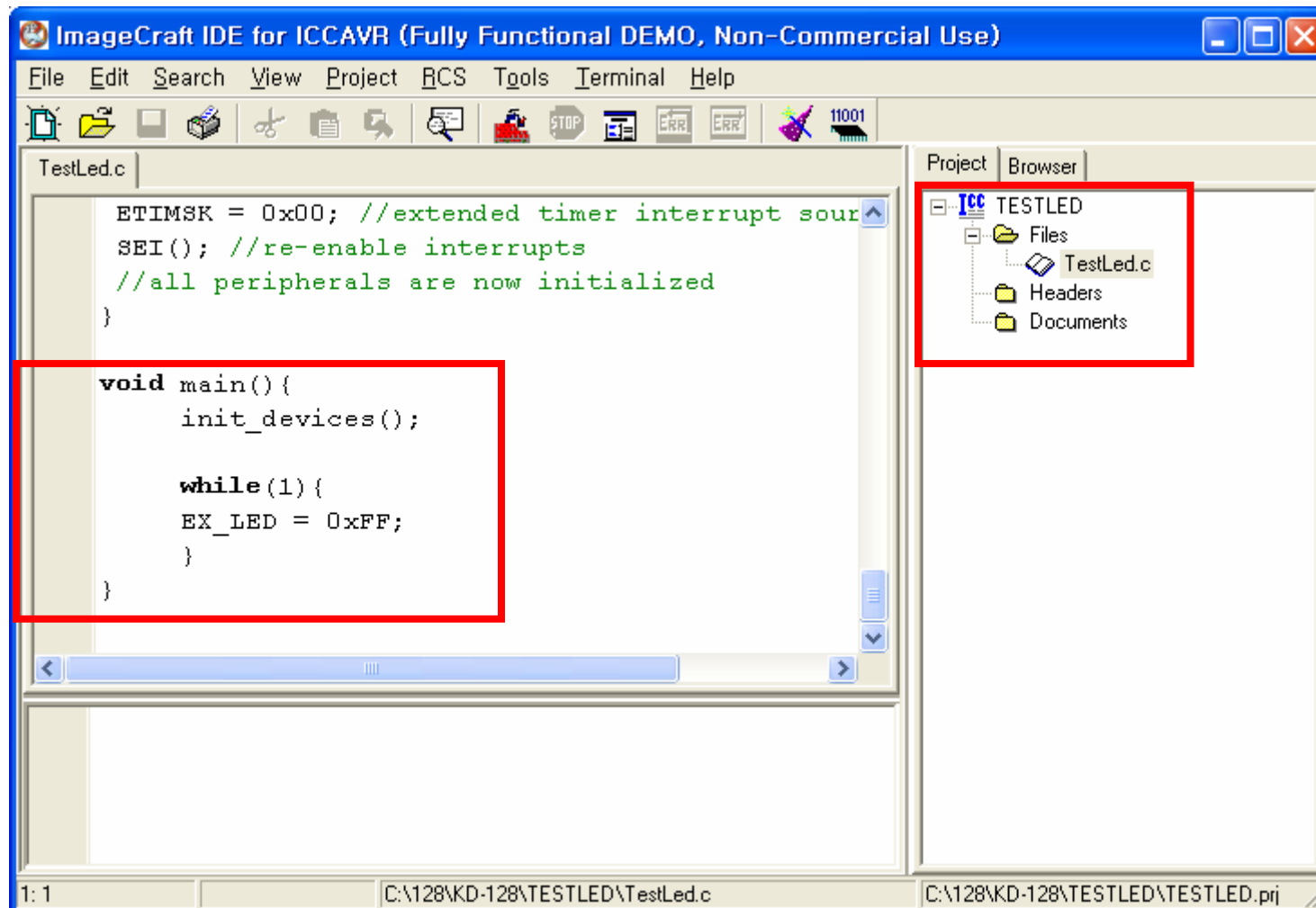
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[개발 환경 구축]



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[개발 환경 구축

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- 완료되었으면 F9 키를 눌러 실행을 시킬 수 있다.