



# PCB 교육 정리

Capture Basic usage

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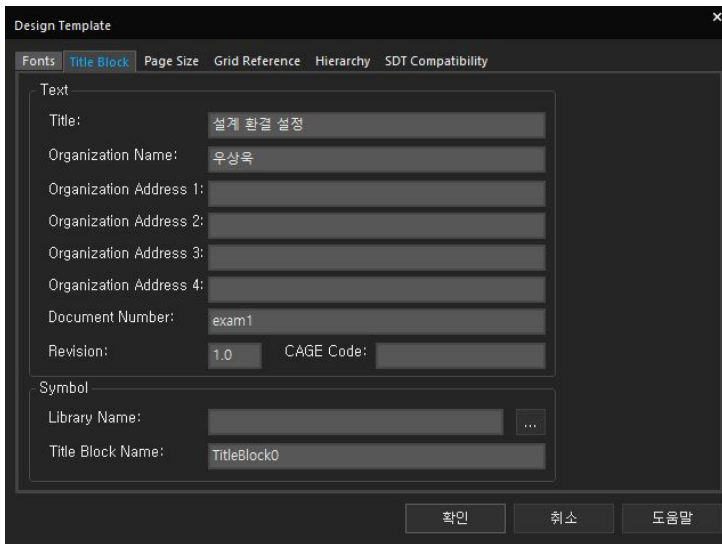
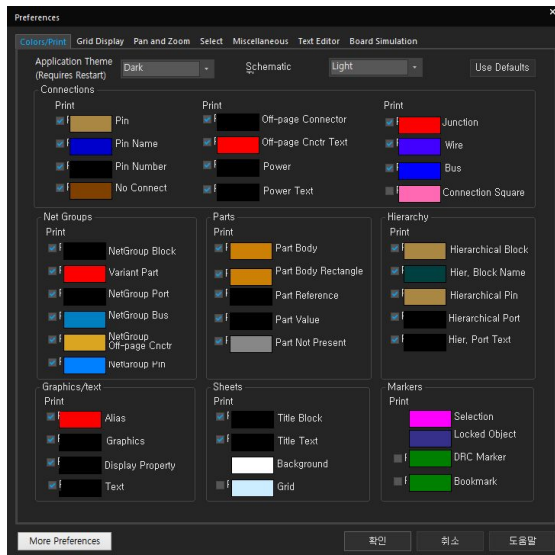
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# 초기 설정

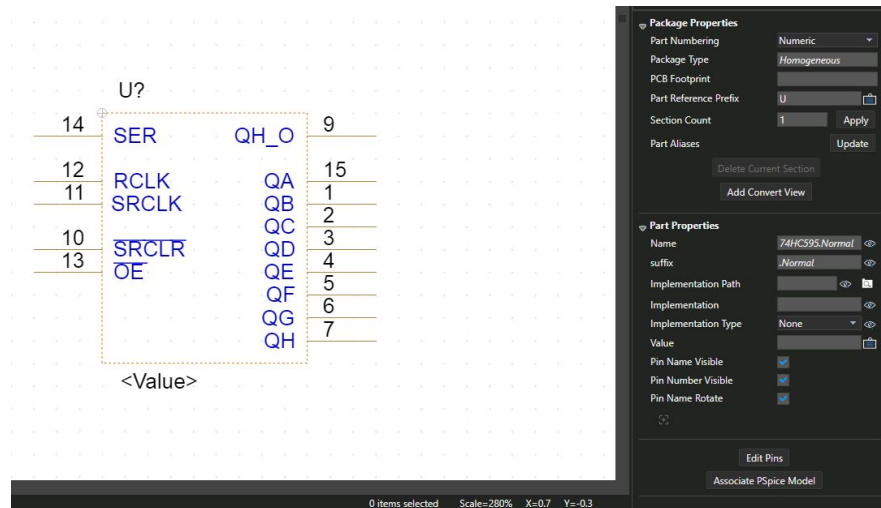
option -> preference/design preference 기능 확인



grid 등의 displayed 속성 들은 print시 출력할지 말지를 설정할 수 있다.

현재 실습에서는 GDN를 구분하지 않지만 실무에서는 혼성회로를 많이 사용하므로 name으로 구분하여 사용

# front-end 기능 학습



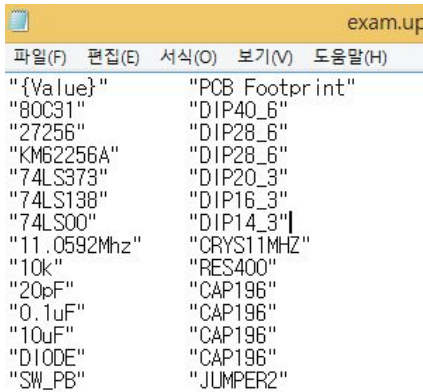
맞는 part가 없을 경우 new part, edit part 기능을 통해 만들거나 있는 part를 수정할 수 있다.

# DRC

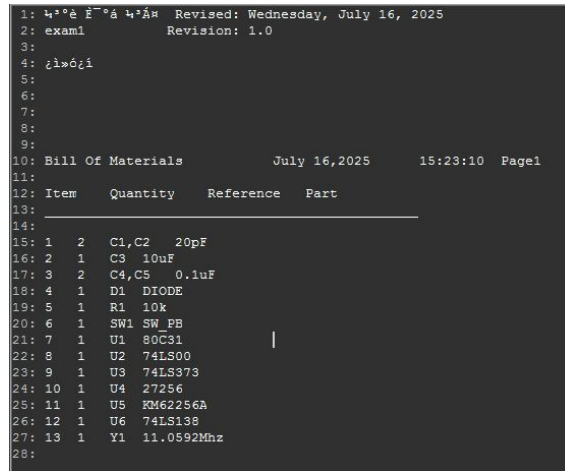
PCB 작업 중 front-end 기능 연습



ERC Metrix



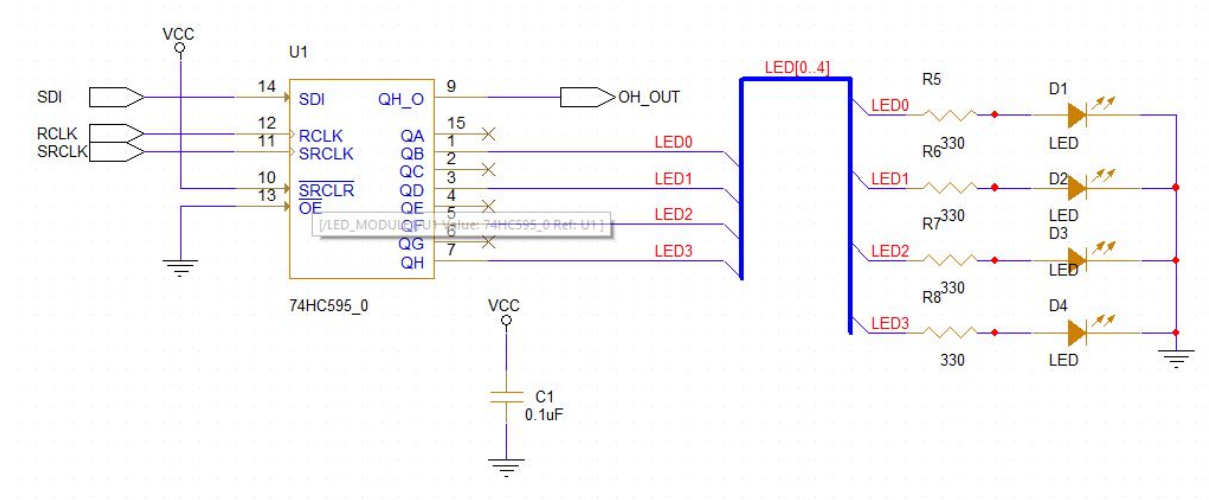
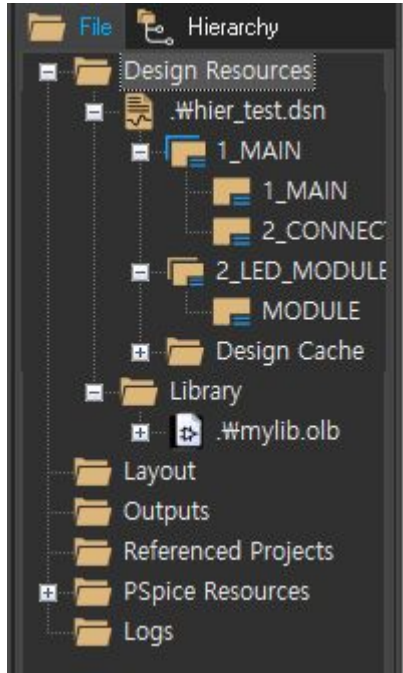
DRC Check를 위한 upd file



DRC Check 후 BOM File

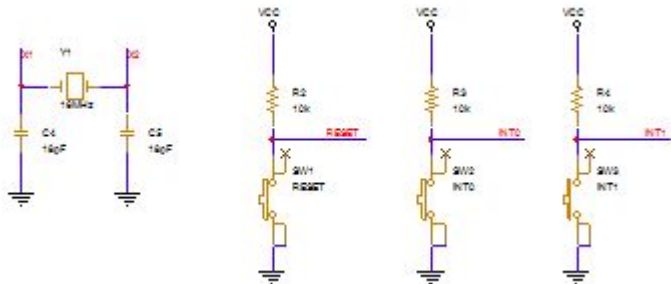
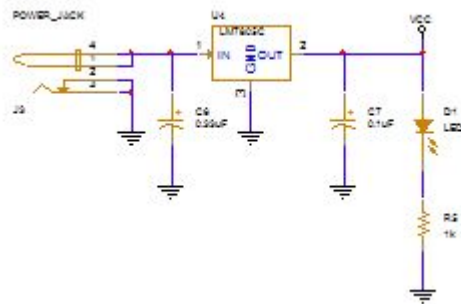
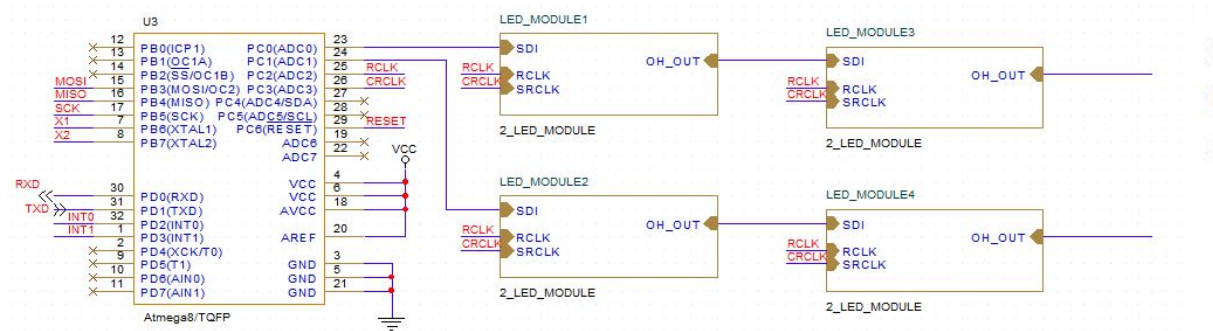
# 계층 구조

계층 구조를 활용하여 schematic을 완성한다.



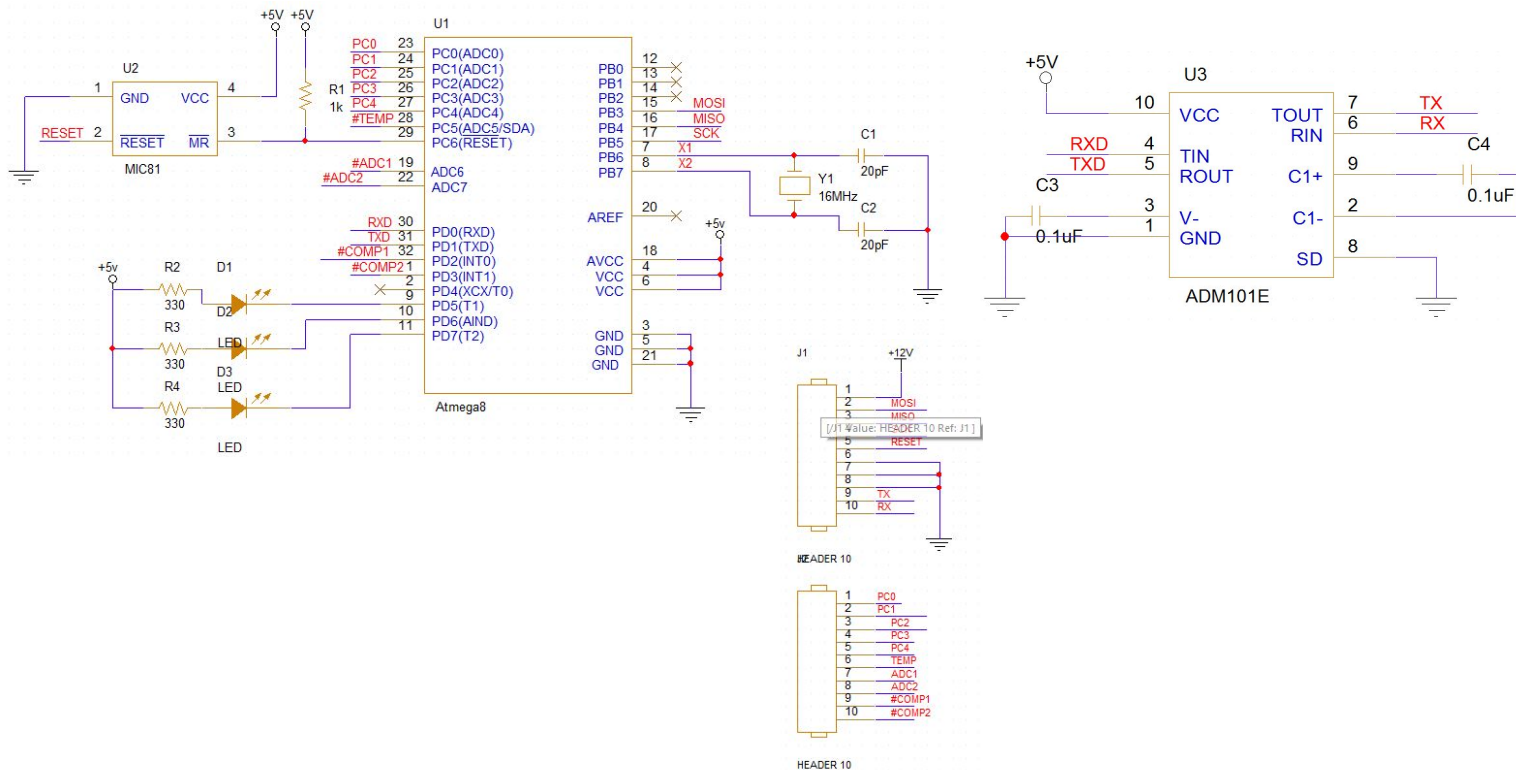
# 계층 구조

## MAIN

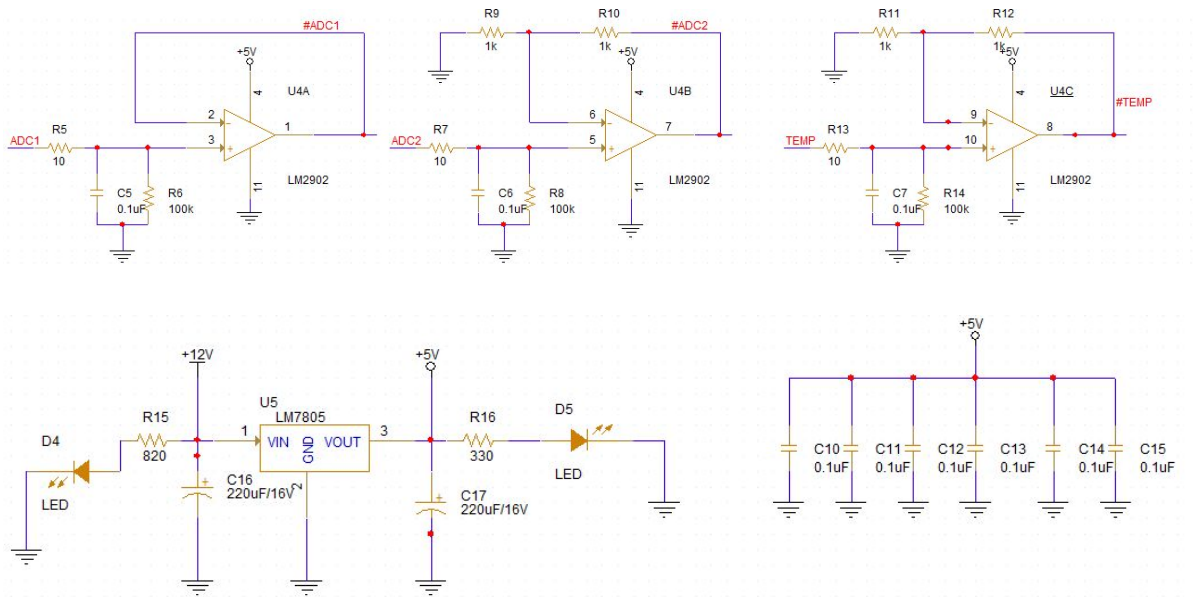




# 전기기능사 예제 문제



# 전기기능사 예제 문제



# 전기기능사 예제 문제

	Input	Bidirectional	Output	Open Collector	Passive	3State	Open Emitter	Input Port	Bidirectional Port	Output Port	Open Collector Port	Passive Port	3State Port	Open Emitter Port	Power	Unconnected
Input																
Bidirectional																
Output																
Open Collector																
Passive																
3State																
Open Emitter																
Input Port																
Bidirectional Port																
Output Port																
Open Collector Port																
Passive Port																
3State Port																
Open Emitter Port																
Power																
Unconnected																

Restore Defaults

Electrical Rules		Batch	Online
<input checked="" type="checkbox"/>	Check single node nets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Check no driving source and Pin type conflicts	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Check duplicate net names	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Check off-page connector connections	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Check hierarchical port connections	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Check unconnected bus nets	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Check unconnected pins	<input checked="" type="checkbox"/>	<input type="checkbox"/>
> <input type="checkbox"/>	Physical Rules		
> <input checked="" type="checkbox"/>	Simulation Rules		
> <input type="checkbox"/>	Custom DRC		

ERC check도 문제 조건에 맞게 수행하였다.