DDLS Unit Test case

Team6
201211386 최하나
200912432 김다영
200611503 이승원
201013761 염 민

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UTP 수정사항

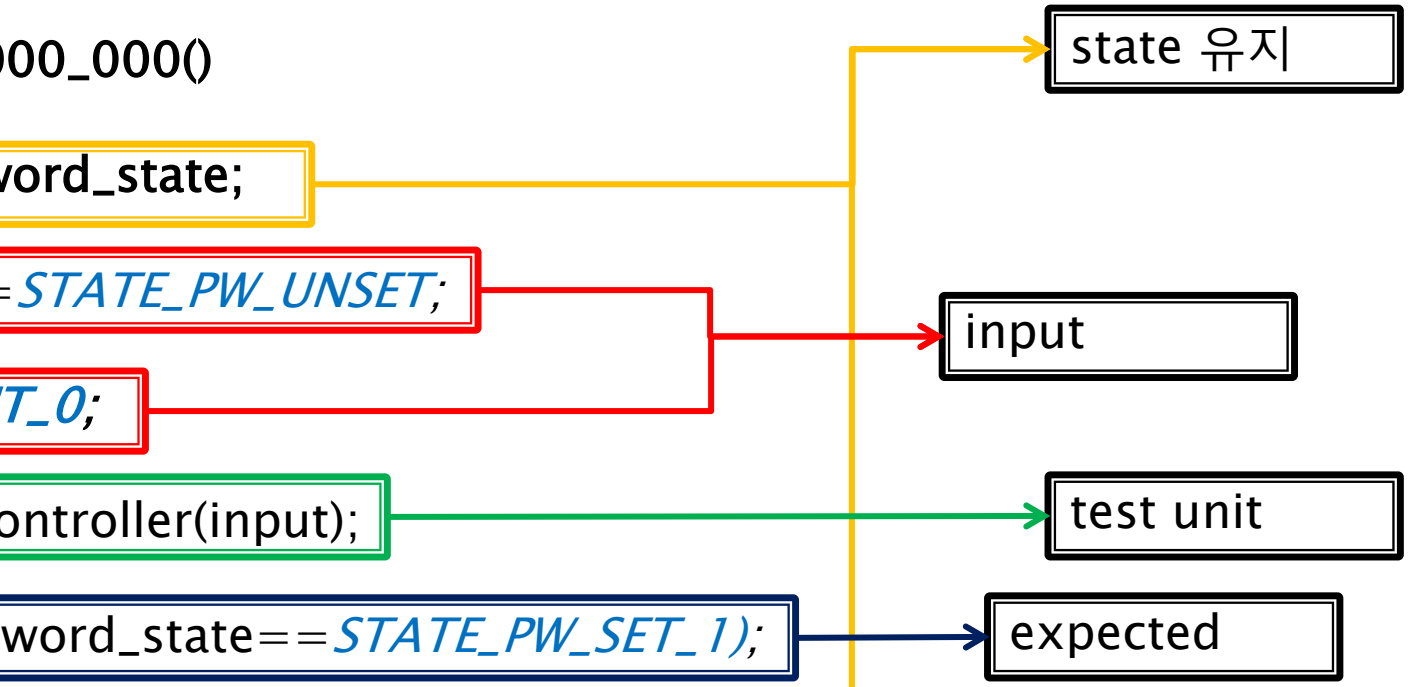
- 미처 살피지 못한 오타 수정
- Unit test design 과 Unit test case에서 서로 맞지 않는 부분 수정
- enable/disable 정의 수정

Test tool – CUnit

- Cunit 은 C에서 unit test를 위한 함수들의 라이브러리를 가지고 있다.
- CUnit.h안에는 여러 종류의 ASSERT 함수가 있어 unit 의 여러 종류의 output 타입을 test 할 수 있다.
- http://www.badprog.com/eclipse-cppunit-installation (설치에 참고)

Test function

```
void DDL_UTC_000_000()
{
int temp =password_state;
password_state=STATE_PW_UNSET;
int input = INPUT_0;
DDLSPasswordController(input);
CU_ASSERT(password_state==STATE_PW_SET_1);
password_state=temp;
} //DDL_UTC_000_000
```



Test results – 2.2.1 setpassword

Identifier	statement	input	expected	real output	test result
DDL_UTC_000_000	password_state==STATE_PW_UNSET	input_value==INPUT_0	password_state==STATE_PW_SET_1	password_state==STATE_PW_SET_1	passed
DDL_UTC_000_001	password_state==STATE_PW_UNSET	input_value==INPUT_LOCK_BUTTON	password_state==STATE_PW_UNSET	password_state==STATE_PW_UNSET	passed
DDL_UTC_000_002	password_state==STATE_PW_UNSET	input_value==INPUT_KEY_SENSOR	password_state==STATE_PW_UNSET	password_state==STATE_PW_UNSET	passed
DDL_UTC_000_003	password_state==STATE_PW_UNSET	input_value==INPUT_COVER_SENSOR_OPEN	password_state==STATE_PW_UNSET	password_state==STATE_PW_UNSET	passed
DDL_UTC_000_004	password_state==STATE_PW_UNSET	input_value==INPUT_COVER_SENSOR_CLOSE	password_state==STATE_PW_UNSET	password_state==STATE_PW_UNSET	passed
DDL_UTC_000_005	password_state==STATE_PW_UNSET	input_value==INPUT_DOOR_SENSOR_OPEN	password_state==STATE_PW_UNSET	password_state==STATE_PW_UNSET	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_000_006	password_state ==STATE_PW_ SET_1	input_value==I NPUT_0	password_state ==STATE_PW_ SET_2	password_state ==STATE_PW_ SET_2	passed
DDL_UTC_000_007	password_state ==STATE_PW_ SET_1	input_value==I NPUT_LOCK_B UTTON	password_state ==STATE_PW_ SET_1	password_state ==STATE_PW_ SET_1	passed
DDL_UTC_000_008	password_state ==STATE_PW_ SET_1	input_value==I NPUT_KEY_SEN SOR	password_state ==STATE_PW_ SET_1	password_state ==STATE_PW_ SET_1	passed
DDL_UTC_000_009	password_state ==STATE_PW_ SET_1	input_value==I NPUT_COVER_S ENSOR_OPEN	password_state ==STATE_PW_ SET_1	password_state ==STATE_PW_ SET_1	passed
DDL_UTC_000_010	password_state ==STATE_PW_ SET_1	input_value==I NPUT_COVER_S ENSOR_CLOSE	password_state ==STATE_PW_ SET_1	password_state ==STATE_PW_ SET_1	passed
DDL_UTC_000_011	password_state ==STATE_PW_ SET_1	input_value==I NPUT_DOOR_S ENSOR_CLOSE	password_state ==STATE_PW_ SET_1	password_state ==STATE_PW_ SET_1	passed
DDL_UTC_000_012	password_state ==STATE_PW_ SET_2	input_value==I NPUT_0	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_000_013	password_state ==STATE_PW_ SET_2	input_value==I NPUT_LOCK_B UTTON	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed
DDL_UTC_000_014	password_state ==STATE_PW_ SET_2	input_value==I NPUT_KEY_SEN SOR	password_state ==STATE_PW_ SET_2	password_state ==STATE_PW_ SET_2	passed
DDL_UTC_000_015	password_state ==STATE_PW_ SET_2	input_value==I NPUT_COVER_S ENSOR_OPEN	password_state ==STATE_PW_ SET_2	password_state ==STATE_PW_ SET_2	passed
DDL_UTC_000_016	password_state ==STATE_PW_ SET_2	input_value==I NPUT_COVER_S ENSOR_CLOSE	password_state ==STATE_PW_ SET_2	password_state ==STATE_PW_ SET_2	passed
DDL_UTC_000_017	password_state ==STATE_PW_ SET_2	input_value==I NPUT_DOOR_S ENSOR_OPEN	password_state ==STATE_PW_ SET_2	password_state ==STATE_PW_ SET_2	passed
DDL_UTC_000_018	password_state ==STATE_PW_ SET_3	input_value==I NPUT_0	password_state ==STATE_PW_ SET_4	password_state ==STATE_PW_ SET_4	passed
DDL_UTC_000_019	password_state ==STATE_PW_ SET_3	input_value==I NPUT_LOCK_B UTTON	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_000_020	password_state ==STATE_PW_ SET_3	input_value==I NPUT_KEY_SEN SOR	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed
DDL_UTC_000_021	password_state ==STATE_PW_ SET_3	input_value==I NPUT_COVER_S ENSOR_OPEN	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed
DDL_UTC_000_022	password_state ==STATE_PW_ SET_3	input_value==I NPUT_COVER_S ENSOR_CLOSE	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed
DDL_UTC_000_023	password_state ==STATE_PW_ SET_3	input_value==I NPUT_DOOR_S ENSOR_OPEN	password_state ==STATE_PW_ SET_3	password_state ==STATE_PW_ SET_3	passed

Test results – 2.2.2 compare password

Identifier	statement	input	expected	real output	test result
DDL_UTC_001_000	password_state==STATE_PW_SET	input_value==INPUT_0	password_state==STATE_PW_W_1	password_state==STATE_PW_W_1	passed
DDL_UTC_001_001	password_state==STATE_PW_INPUT_1	input_value==INPUT_0	password_state==STATE_PW_W_2	password_state==STATE_PW_W_2	passed
DDL_UTC_001_002	password_state==STATE_PW_INPUT_1	input_value==INPUT_COVER_SENSOR_CLOSE	password_state==STATE_PW_SET	password_state==STATE_PW_CANCEL	passed
DDL_UTC_001_003	password_state==STATE_PW_INPUT_2	input_value==INPUT_0	password_state==|STATE_PW_W_3	password_state==STATE_PW_W_3	passed
DDL_UTC_001_004	password_state==STATE_PW_INPUT_2	input_value==INPUT_COVER_SENSOR_CLOSE	password_state==STATE_PW_SET	password_state==STATE_PW_CANCEL	passed
DDL_UTC_001_005	password_state==STATE_PW_W_3	input_value==INPUT_0	password_state==STATE_PW_WRONG	STATE_PW_WRONG	passed
DDL_UTC_001_006	password_state==STATE_PW_W_3	input_value==INPUT_COVER_SENSOR_CLOSE	password_state==STATE_PW_SET	password_state==STATE_PW_CANCEL	passed

Test resluts – 2.2.3 cancel password

Identifier	statement	input	expected	real output	test result
DDL_UTC_002_000	password_state==STATE_PW_INPUT_1	tick==2000	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed
DDL_UTC_002_001	password_state==STATE_PW_INPUT_1	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed
DDL_UTC_002_002	password_state==STATE_PW_INPUT_2	tick==2000	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed
DDL_UTC_002_003	password_state==STATE_PW_INPUT_2	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed
DDL_UTC_002_004	password_state==STATE_PW_INPUT_3	tick==2000	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed
DDL_UTC_002_005	password_state==STATE_PW_INPUT_3	lock_state==STATE_LOCK_OPEN \	password_state==STATE_PW_CANCEL	password_state==STATE_PW_CANCEL	passed

Test results – 2.3.1 hand_lock

Identifier	statement	input	expected	real output	test result
DDL_UTC_003_000	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_LOCK_BUTTON	enable	enable	passed
DDL_UTC_003_001	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_KEY_SENSOR	enable	enable	passed
DDL_UTC_003_002	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_COVER_SENSOR_OPEN	disable	disable	passed
DDL_UTC_003_003	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_COVER_SENSOR_CLOSE	disable	disable	passed
DDL_UTC_003_004	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_DOOR_SENSOR_OPEN	disable	disable	passed
DDL_UTC_003_005	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_UNSET	disable	disable	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_003_006	loce_stete==STATE_LOCK_CLOSE	password_state==STATE_PW_SET	disable	disable	passed
DDL_UTC_003_007	loce_stete==STATE_LOCK_CLOSE	password_state==STATE_PW_INPUT_1	disable	disable	passed
DDL_UTC_003_008	loce_stete==STATE_LOCK_CLOSE	password_state==STATE_PW_INPUT_2	disable	disable	passed
DDL_UTC_003_009	loce_stete==STATE_LOCK_CLOSE	password_state==STATE_PW_INPUT_3	disable	disable	passed
DDL_UTC_003_010	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_RIGHT	enable	enable	passed
DDL_UTC_003_011	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_W_1	disable	disable	passed
DDL_UTC_003_012	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_W_2	disable	disable	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_003_013	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_W_3	disable	disable	passed
DDL_UTC_003_014	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_WRONG	disable	disable	passed
DDL_UTC_003_015	lock_state==STATE_LOCK_CLOSE	password_state==STATE_PW_CANCEL	disable	disable	passed
DDL_UTC_003_016	lock_state==STATE_LOCK_OPEN	input_value==INPUT_LOCK_BUTTON	disable	disable	passed
DDL_UTC_003_017	lock_state==STATE_LOCK_OPEN	input_value==INPUT_KEY_SENSOR	enable	enable	passed
DDL_UTC_003_018	lock_state==STATE_LOCK_OPEN	input_value==INPUT_COVER_SENSOR_OPEN	disable	disable	passed
DDL_UTC_003_019	lock_state==STATE_LOCK_OPEN	input_value==INPUT_COVER_SENSOR_cLOSE	disable	disable	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_003_020	lock_state==STATE_LOCK_OPEN	input_value==INPUT_DOOR_SENSOR_CLOSE	enable	enable	passed
DDL_UTC_003_021	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_UNSET	disable	disable	passed
DDL_UTC_003_022	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_SET	disable	disable	passed
DDL_UTC_003_023	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_INPUT_1	disable	disable	passed
DDL_UTC_003_024	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_INPUT_2	disable	disable	passed
DDL_UTC_003_025	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_INPUT_3	disable	disable	passed
DDL_UTC_003_026	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_RIGHT	enable	enable	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_003_027	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_W_1	disable	disable	passed
DDL_UTC_003_028	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_W_2	disable	disable	passed
DDL_UTC_003_029	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_W_3	disable	disable	passed
DDL_UTC_003_030	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_WRONG	disable	disable	passed
DDL_UTC_003_031	lock_state==STATE_LOCK_OPEN	password_state==STATE_PW_CANCEL	disable	disable	passed

Test resluts – 2.3.2 auto_lock

Identifier	statement	input	expected	real output	test result
DDL_UTC_004_000	lock_state==STATE_LOCK_CLOSE	input_value==INPUT_LOCK_BUTTON	enable	enable	passed
DDL_UTC_004_001	ock_state==STATE_LOCK_CLOSE	input_value==INPUT_KEY_SENSOR	enable	enable	passed
DDL_UTC_004_002	ock_state==STATE_LOCK_CLOSE	input_value==INPUT_COVER_SENSOR_OPEN	disable	disable	passed
DDL_UTC_004_003	ock_state==STATE_LOCK_CLOSE	input_value==INPUT_COVER_SENSOR_CLOSE	disable	disable	passed
DDL_UTC_004_004	ock_state==STATE_LOCK_CLOSE	input_value==INPUT_DOOR_SENSOR_OPEN	disable	disable	passed
DDL_UTC_004_005	ock_state==STATE_LOCK_CLOSE	tick==4000	disable	disable	passed

Identifier	statement	input	expected	real output	test result
DDL_UTC_004_006	lock_state==STATE_LOCK_OPEN	input_value==INPUT_LOCK_BUTTON	disable	disable	passed
DDL_UTC_004_007	lock_state==STATE_LOCK_OPEN	input_value==INPUT_KEY_SENSOR	enable	enable	passed
DDL_UTC_004_008	lock_state==STATE_LOCK_OPEN	input_value==INPIT_COVER_SENSOR_OPEN	disable	disable	passed
DDL_UTC_004_009	lock_state==STATE_LOCK_OPEN	input_value==INPIT_COVER_SENSOR_CLOSE	disable	disable	passed
DDL_UTC_004_010	lock_state==STATE_LOCK_OPEN	input_value==INPIT_DOOR_SENSOR_CLOSE	disable	disable	passed
DDL_UTC_004_011	lock_state==STATE_LOCK_OPEN	tick==4000	disable	disable	passed

Test results – 2.3.3 lock manager

Identifier	statement	input	expected	real output	test result
DDL_UTC_005_000	lock_state==STATE_LOCK_OPEN	enable	lock_state==STATE_LOCK_OPEN	lock_state==STATE_LOCK_OPEN	passed
DDL_UTC_005_001	lock_state==STATE_LOCK_OPEN	disable	lock_state==STATE_LOCK_CLOSE	lock_state==STATE_LOCK_CLOSE	passed
DDL_UTC_005_002	lock_state==STATE_LOCK_CLOSE	enable	lock_state==STATE_LOCK_OPEN	lock_state==STATE_LOCK_OPEN	passed
DDL_UTC_005_003	lock_state==STATE_LOCK_CLOSE	disable	lock_state==STATE_LOCK_CLOSE	lock_state==STATE_LOCK_CLOSE	passed

Test results – 2.4.1 alarm controller

Identifier	statement	input	expected	real output	test result
DDL_UTC_006_000	password_state ==STATE_PW_I NPUT_1	STATE_PW_INP UT_1	h_alarm1==O N	h_alarm1==O N	passed
DDL_UTC_006_001	password_state ==STATE_PW_I NPUT_2	STATE_PW_INP UT_2	h_alarm1==O N	h_alarm1==O N	passed
DDL_UTC_006_002	password_state ==STATE_PW_I NPUT_3	STATE_PW_INP UT_3	h_alarm1==O N	h_alarm1==O N	passed
DDL_UTC_006_003	password_state ==STATE_PW_ RIGHT	STATE_PW_RIG HT	h_alarm1==O N	h_alarm1==O N	passed
DDL_UTC_006_004	password_state ==STATE_PW_ CANCEL	STATE_PW_CA NCEL	h_alarm3==O N	h_alarm3==O N	passed
DDL_UTC_006_005	password_state ==STATE_PW_ WRONG	STATE_PW_WR ONG	h_alarm2==O N	h_alarm2==O N	passed

Q&A

질문 있으신 분???