

# Chapter 4: Completed Framework

## Framework Architecture

Our testing framework is run by a Python script (runAllScripts.py) that reads in our test case files and from the seventh line determines which driver to use to run the test. Once it finds the right driver, it passes in the inputs and runs the tested method. It compares the result to the oracle of that test case to determine if the test failed or passed. As we have a method that results in a seg fault, we handled this by labeling them as “No result found” (we may replace these test cases in the future). Once all the test cases have been run, a report with all the results is produced and opens.

## How-To

1. Clone our repository
2. Go to TestAutomation/scripts
3. Run runAllScripts.py (tor is built in this)
4. Review the report.

## Test Cases

Case ID	File	Method	Inputs	Oracle
1	Util.c	unsigned round_to_next_multiple_of(unsinged number, unsigned divisor)	13,4	16
2	Util.c	unsinged round_to_next_multiple_of(unsinged number, unsigned divisor)	0,42	0
3	Util.c	uint64_t round_to_power_of_2(uint64_t u64)	9223372036854776000	63
4	Util.c	uint64_t round_to_power_of_2(uint64_t u64)	4244967300	33
5	Util.c	uint64_t round_to_power_of_2(uint64_t u64)	-256	8
6	Util.c	uint64_t round_to_power_of_2(uint64_t u64)	0	1
7	Util.c	static int digit_to_num(char d)	'-1'	-1
8	Util.c	static int digit_to_num(char d)	'11'	11
9	Util.c	static int digit_to_num(char d)	'1'	1
10	Util.c	static int digit_to_num(char d)	a	error
11	Util.c	int tor_strisnonupper(const char *s)	apple	1
12	Util.c	int tor_strisnonupper(const char *s)	Apple	0
13	Util.c	int64_t tor_llround(double d)	5.6	6
14	Util.c	int64_t tor_llround(double d)	5.3	5
15	Util.c	int64_t tor_llround(double d)	-0.1	0

16	Util.c	int64_t tor_llround(double d)	18446744073709551616	9223372036854775807
17	Util.c	int64_t tor_llround(double d)	18446744073709551616	18446744073709551616
18	Util.c	digit_to_num(char d)	3	3
19	Util.c	digit_to_num(char d)	e	error
20	Util.c	digit_to_num(char d)	-1	error
21	Util.c	digit_to_num(char d)		error
22	Util.c	digit_to_num(char d)	90	error
23	Util.c	int addr_mask_get_bits(uint32_t mask)	0	0
24	Util.c	int addr_mask_get_bits(uint32_t mask)	0x04A099B23	-1
25	Util.c	int addr_mask_get_bits(uint32_t mask)	0xFFFFFFFFFu	32