

## Jeremiah Webb Workshop 8

### Task 1

1. TEST\_ASSERT\_EQUAL\_UINT16 (expected, actual)
2. TEST\_ASSERT\_EQUAL\_INT16 (expected, actual)
3. TEST\_ASSERT\_EQUAL\_UINT32 (expected, actual)
4. TEST\_ASSERT\_EQUAL\_INT32 (expected, actual)

### Code Snippet

```
void test_swap_c_1(void) {
    uint32_t a1[] = {0xFFFFFFFF, 3};
    uint32_t a2[] = {3, 0xFFFFFFFF};
    swap_c_1(&a2[0], &a2[1]);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(a1, a2, 2);
    uint32_t a3[] = {0xFFFFFFFF0, 3};
    uint32_t a4[] = {3, 0xFFFFFFFF0};
    swap_c_1(&a4[0], &a4[1]);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(a3, a4, 2);

    //Task 2
    uint32_t x = 16;
    uint32_t b = 16;
    swap_c_1(&x, &b);
    TEST_ASSERT_EQUAL_UINT16(x, b);
    x = -16;
    b = 16;
    swap_c_1(&x, &b);
    TEST_ASSERT_EQUAL_UINT16(x, b);
}
```

```

void test_rank_ascending_c(void) {
    uint32_t arr1[] = {0xDDDDDDDD, 0x12345678, 0, 0xFFFFFFFF,
0x88888888};

    uint32_t arr1asc[] = {0, 0x12345678, 0x88888888, 0xDDDDDDDD,
0xFFFFFFFF};

    rank_ascending_c(arr1, 5);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(arr1asc, arr1, 5);


    uint32_t arr2[] = {1, 3, 5, 7, 2, 4, 6, 8};
    uint32_t arr3[] = {-1, 3, -5, 7, -2, 4, -6, 8};
    rank_ascending_c(arr2, 8);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(arr3, arr2, 8);


}

```

```

void test_rank_descending_c(void) {
    uint32_t arr1[] = {0xDDDDDDDD, 0x12345678, 0, 0xFFFFFFFF,
0x88888888};

    uint32_t arr1des[] = {0xFFFFFFFF, 0xDDDDDDDD, 0x88888888,
0x12345678, 0};

    rank_descending_c(arr1, 5);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(arr1des, arr1, 5);


    uint32_t arr2[] = {1, 3, 5, 7, 2, 4, 6, 8};
    uint32_t arr3[] = {-1, 3, -5, 7, -2, 4, -6, 8};
    rank_descending_c(arr2, 8);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(arr3, arr2, 8);


}

```

```

void test_swap_c_1_fail(void){
    uint32_t a1[] = {1, 3};
    uint32_t a2[] = {3, 2};
    swap_c_1(&a2[0], &a2[1]);
    TEST_ASSERT_EQUAL_UINT32_ARRAY(a1, a2, 2);
}

```

```

int main(void) {
    UNITY_BEGIN();

    RUN_TEST(test_swap_c_1);
    RUN_TEST(test_rank_ascending_c);
    RUN_TEST(test_rank_desending_c);
    RUN_TEST(test_swap_c_1_fail);

    UNITY_END();

    while(1);
}

```

### Screenshot of Results

```

Debug (printf) Viewer
source\ws_unity_intro_testFunctions_all.c:31:test_swap_c_1:FAIL: Expected 16 Was 65520
source\ws_unity_intro_testFunctions_all.c:44:test_rank_ascending_c:FAIL: Element 0 Expected 4294967295 Was 1
source\ws_unity_intro_testFunctions_all.c:58:test_rank_desending_c:FAIL: Element 0 Expected 4294967295 Was 8
source\ws_unity_intro_testFunctions_all.c:66:test_swap_c_1_fail:FAIL: Element 0 Expected 1 Was 2

-----
4 Tests 4 Failures 0 Ignored
FAIL

```