

# CS350 Intro Computer Systems Homework 1

## Homework 1 on Reality Check

Write C programs to implement the reality we discussed last week. See the details of reality in the lecture notes: reality\_1 on page 4, reality\_3 on page 8 and reality\_4 on page 12.

- Use the skeleton code [reality.c](#) for reality 1 and 3 and [reality4.c](#) for reality 4.
- Use [Makefile](#) for managing and compiling.
- When reality is executed, your program will make necessary decisions and print the following:

```
$ reality 5

reality_1_example_1_float: f=50000.000000
f*f=25000000000.000000 >= 0

reality_1_example_1_int: i=40000
i*i=16000000000 >= 0

reality_1_example_1_int: i=50000
i*i=-1794967296 < 0

reality_1_example_2_unsigned: uix=12 uiy=34 uiz=56
((uix+uiy)+uiz)=102 == (uix+(uiy+uiz))=102

reality_1_example_2_signed: six=12 siy=34 siz=56
((six+siy)+siz)=102 == (six+(siy+siz))=102

reality_1_example_2_float: fx=1.000000e+20 fy=-1.000000e+20 fz=3.140000
((fx+fy)+fz)=3.140000e+00 != (fx+(fy+fz))=0.000000e+00

reality_3: n=5 iterations
fun(0) -> 3.140000
fun(1) -> 3.140000
fun(2) -> 3.140000
fun(3) -> 2.000001
fun(4) -> 3.140000
Segmentation fault (core dumped)

$
```

- When reality4 is executed, your program will compute the time taken to run the two functions copyij() and copyji(), and print them as follows:

```
$ reality4

copyij(): dim=2048: elapsed=0.13 secs

copyji(): dim=2048: elapsed=0.97 secs

$
```