Lab 1
Primitive Data Types

Download the "template" file from the course page.

1) Fill in the C function called `print_binary_char(char c)`, which prints an 8-bit signed binary to the screen. For instance, `print_binary_char(5)` would print `00000101`. The function `question1()` function iterates from -16 to 15 calling this function. Which representation for negative numbers is used?

2) How are floating points stored in memory on your machine? Little Endian or Big Endian? Fill in the C function called `print_binary_float(float f)`, which prints the `float` number in hexadecimal. For instance, `print_binary_float(1)` would print `3F 80 00 00`. The function `question2()` calls this function with different values. (Hint: make a union between a `float` and and array of `unsigned char` of the same size)

3) Fill in the following C functions, which show how floating points are represented.
   - `get_smallest_positive_float()`: returns the smallest positive single precision floating point number. (Hint: Let Exponent be minimum and Mantissa be minimum)
   - `get_double_epsilon()`: returns epsilon for `double`. (Hint: `1.0` has a `0` mantissa. Let the least-significant bit of its mantissa be `1`.)
   - `get_longdouble_exponent_bias()`: returns the biased exponent of a `long double`. (Hint: `1.0L` has an biased exponent of `01111…111`.)

4) Read this tutorial: Unicode in C and C++. Nothing to be delivered. Just FYI.

How to submit?

- Rename the template to be your student id. If your id is 9876, then rename the file to 9876.c
- Upload the source code using https://goo.gl/forms/M0uzNvgZvu8BYBPT2