CS101 Introduction to Computer Science	
Lecture 3: October 18, 2017	Lecturer: Qingsong Guo
Scribes: Qingsong Guo	

THINK IN DATA: **Data Storage**

3.1 Overview of the lecture 3

In this lecture we have learned how to represent data with binary system, i.e. bits pattern.

- Bit: we use a bit to represent a binary digital 0 or 1. In addition we discussed how to store one bit with Flip-flop, its circuit implementation with logical gates.
- Bits pattern: we use it to represent binary numbers.
- Representation of text data: ASCII, ISO, and Unicodes such as UTF-8 and UTF-16.

3.2 Homework assignment

You are expected to go through the questions & exercises in the end of each section we have discussed in this lecture. But it is not mandatory.

3.2.1 Mandatory questions

The following questions are mandatory, so you should turn in your solutions for them at the next lecture.

Problems come from the Chapter Review Problems of chapter 1, from page 73 to 77. The mandatory questions are as follows:

- 1, 2, 4, 6, 7, 8, 9;
- 15, 19, 20, 21, 22, 24;
- 26, 27, 28.

3.2.2 Extra credit questions

1. Encode your name in ASCII using one byte per character.
   Hints: For Chinese students, you should first translate your name to Pinying, and then to encode the pinying character to ASCII.
2. Question 3^* of the Chapter Review Problems