

2.1 Data Representation

Hexadecimal

Long strings of binary digits are hard to read and remember, so to make reading large binary strings readable we utilize hexadecimal which breaks the long string into groups of 4 and represents each group with a numerical value from 0 - 15. 10 - 15 is represented using a, b, c, d, e, f. Resulting in the following series of decimal values :

$$\langle 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, a, b, c, d, e, f \rangle$$

Terms

Definition 2.1 *Bit : a single 1 or 0 (voltage level or magnetic orientation)*

Definition 2.2 *Nibble : 1 hexadecimal digit, which is 4 bits*

Definition 2.3 *Byte : 2 hexadecimal digits, which is 8 bits*

Definition 2.4 *Word : is a collection of 4 or 8 bytes depending on the platform architecture (32-bit or 64-bit)*

2.2 MIPS Assembly Language

Will start MIPS next lecture. We spent too much time talking about jellybeans!