16.317: Microprocessor Systems Design I

Fall 2013

Lecture 2: Key Questions
September 6, 2013

1. Briefly describe the role of an ISA. What information specified in the ISA is required to translate a high-level statement such as `X[i]=i*2;` to assembly language?

2. What types of operations should a processor be able to perform?

3. What are the two major concerns when dealing with data on a microprocessor?

4. Briefly describe data types: what they specify, and what the different possibilities are for each aspect of a data type.

5. Explain the difference between how data can be interpreted as a signed or unsigned integer. Show the difference by interpreting the 8-bit value $1001\ 1111_2$ as both a signed and unsigned value.

6. What characteristics do we want storage media to have?

7. Describe the basic characteristics of processor registers.

8. Describe the basic characteristics of processor memory.