

Topics for today:

More on characters

Begin ALU's

### Recall: ASCII

The traditional and most common representation for characters in single byte is ASCII (pronounced “askey”) – American Standard Code for Information Interchange.

### ASCII

There are many variations/extensions outside the range of 32 – 127.

(Why wasn't the range from 128 – 255 standardized?)

### Unicode

Extension of ASCII (sort of)

Two bytes per character/symbol (originally)

Intended for international use

Assignment/allocation is complex and political

### ALU Recall:

The CPU consists of

- Registers
- ALU
- Control unit

and some internal buses connecting them.

### Recall

An Arithmetic Logic Unit (ALU) is a combinational circuit which performs arithmetic and logic operations on a sequence of input bits to produce a sequence of output bits. The operation to be performed is determined by a control signal.

### Bit-slice ALU

A common arrangement for an ALU is a sequence of *bit-slices*. Each bit slice performs the selected operation on 1-bit inputs to produce 1-bit outputs. All bit slices perform the same operation in parallel. Carry lines connect the slices for adding or other arithmetic operations.

