Implementing Comparison

How are signed and unsigned comparison implemented?

- Let's look at 0110 (6) and 1010 (–6 or 10) in 4-bit representation
- If this is a signed comparison, subtraction result is positive (12)
- If unsigned, subtraction result is negative (–4)
- Potential problem: 12 overflows 4-bit signed representation
- What to do? Extend to 5-bit representation, check "new" MSB
  - Signed comparison? Sign extend
  - Unsigned comparison? Zero extend

```
 00110        00110
–11010       –01010
 01100        11100
```