30 November

- 2 classes to go
- Nutrition Survey
- Questions
- Course survey
- CCR

Questions

- What distinguishes CISC from RISC?
- What about “BIG” constants?
- What’s up with Endians?

4.14

What is 0x8FEFC000 if it represents:

- A 2’s complement integer?
- An unsigned integer?
- A float?
- An instruction?

4.14

What is 0x8FEFC000 if it represents:

- A 2’s complement integer?
  
  The sign bit is 1, so this is a negative number. We first take its two’s complement.
  
  \[ A = 1000\,1111\,1111\,1100\,0000\,0000\,0000 \]
  
  \[ -A = 0111\,0000\,0001\,0000\,0000\,0000\,0000 \]
  
  \[ = 2^{30} + 2^{29} + 2^{28} + 2^{14} \]
  
  \[ = 1,073,741,824 + 536,870,912 + 268,435,456 + 1,048,576 + 16,384 \]
  
  \[ = 1,880,113,152 \]
  
  \[ A = -1,880,113,152 \]

- An unsigned integer?
- A float?
- An instruction?
4.14

What is 0x8FEFC000 if it represents:
- A 2’s complement integer?
- An unsigned integer?
- A float?
- An instruction?

Opcode (6 bits) = 100011 = lw
RS (5 bits) = 11111 = 31
RT (5 bits) = 01111 = 15
Address (16 bits) = 1100 0000 0000 0000
Address is negative so 2’s complement is 0100 0000 0000 0000
Address = -2^14 = -16384
LW 15, -16384(31)

Quick Review
- Performance
- Assembly language programming
- Representation
- Arithmetic
- Logic gates
- Multiplication/Division
- Floating Point
- Control
- Pipelining
- Cache
- VM
- I/O, Interrupts, OS

What is next in courses?
- Comp 160 Digital Logic
- Comp 140 Compilers
- Comp 142 Operating Systems
- Comp 130 Files and Databases
- Comp 181 Models of Language and Computation

Classes to go

1