

CS241 Tutorial 2

Graham Cooper

May 22nd, 2015

SymbolTables

1)

```
begin:
label: beq $0, $0, after
jr $4
after:
sw $31, 16($0)
lis $4
abc0: abc1: .word after
```

```
badStore:
lw $20, 4($0)
sw $20, 28($0)
end:
```

name	value(addr)
begin	0x0
label	0x0
after	0x8
abc0	0x10
abc1	0x10
badStore	0x14
end	0x1c

Assembly Errors

```
0 label: label: .word label
4.word ;0
8 .word aaaaa
c .word 1 2 3
10 .word 2147483648 abcde:
14 .word ,
```

0: Two labels with the same name

4: Needs a number after .word (not in a comment) 8: cant have letters

c: has to have exactly 1 operand (spaces make it 3)
10: we can get unsigned or signed integers so you can have values from $[-2^{31}, 2^{31} - 1]$ and $[0, 2^{32} - 1]$ so this number is allowed but the label has to be the very first thing on the line
14: no comma, bad (has to be the right thing).

C++ Review

Containers:

1. `Pair< int, string > p`
2. `Vector< int > v; v.push_back(5);`
3. `List< int > l; l.push_back(10); l.push_front(5);`
4. `Map< string, int > m; m["foo"]=5;`
5. `Set< int > s;`