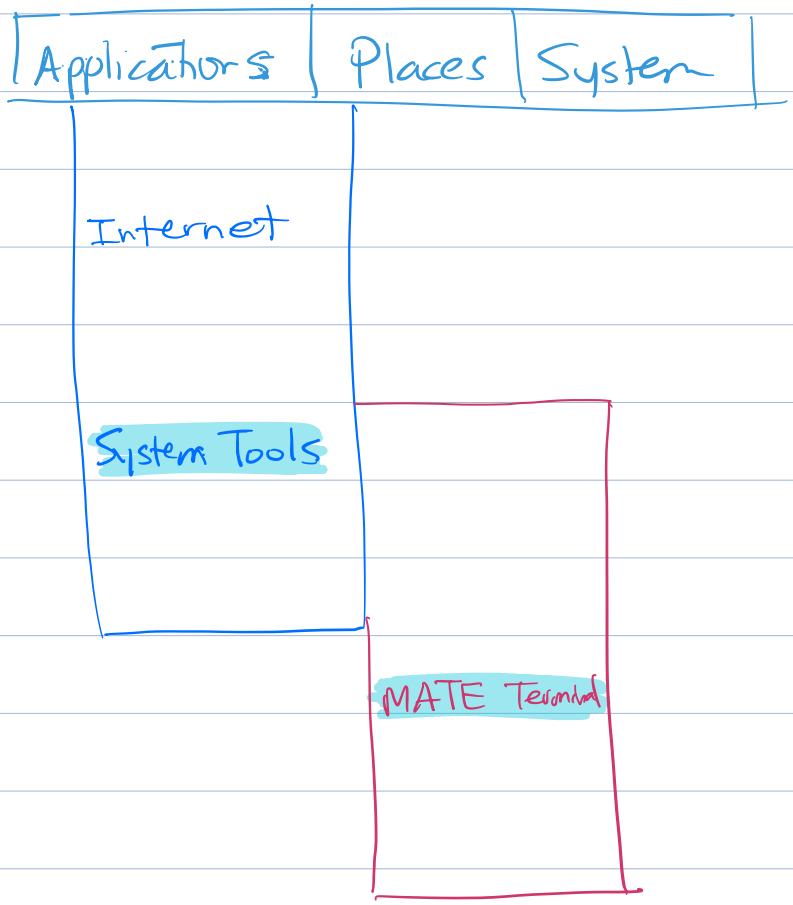
# Lab Issues, Git Issues

- If things come up during the official lab time, talk to the instructor.

- If things come up (fail-to-ban, forgot password, git not doing what you expected)
  - discord - wizard's corner or help centre
  - help centre (in person) - mostly for programming help and linux usage
  - mail from your viu mail account to CSC1TechHelp@viu.ca
  - See me in my office hour Tue 11:30-1:00

- It is your responsibility to get the issues resolved. Don't assume that because we talked about it in lab, I will remember to do something about it outside of lab. To invoke my help outside of lab, send an email to gara.pruesse@viu.ca

# Linux Primer

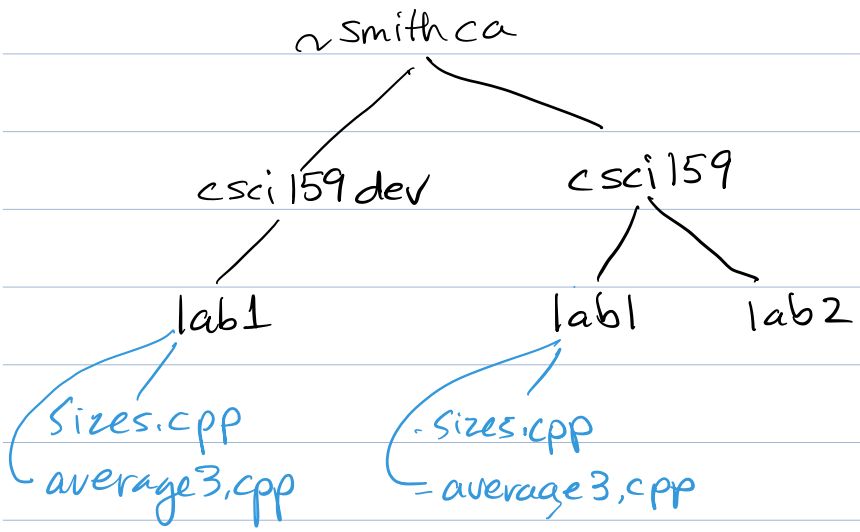



See https://ryanstutorials.net/linuxtutorial/cheatsheet.php

~$ cd — takes you to your home directory

~$ ls — lists the contents (files, directories) in the current directory

~$ cd csci159/lab2 - takes you "down" two directories into lab2 director but only if this path exists




You can also go "up" from your relative position using ..

If in csci159/lab1, what happens when you...

~$ ls

~$ ls ..

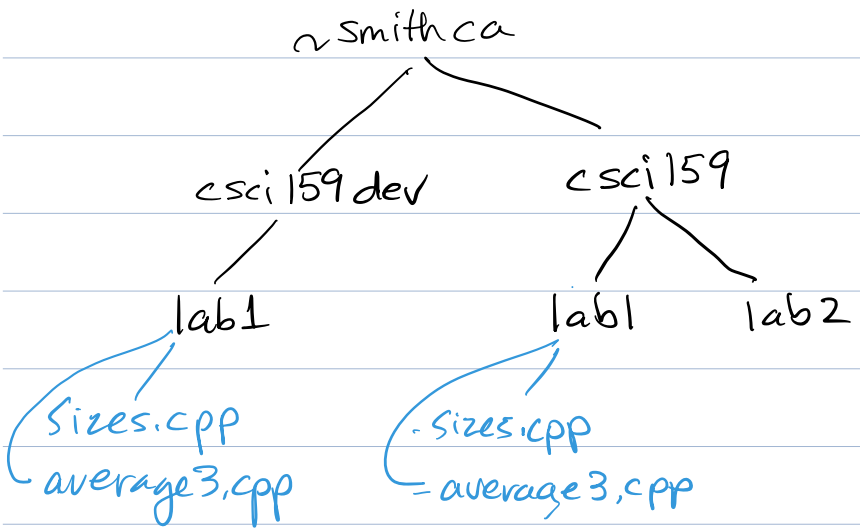
~$ cd ..

then ~$ ls ..

~$ cd — takes you to your home directory

~$ ls — lists the contents (files, directories) in the current directory

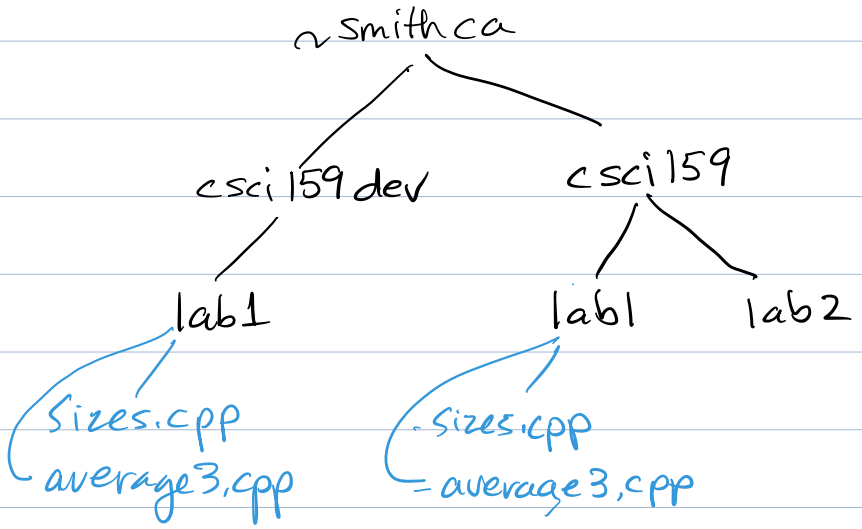
~$ cd csci159/lab2 - takes you "down" two directories into lab2 director but only if this path exists




What would happen if you were in directory ~/csci159/lab1 and you execute the command

~$ cp ../../csci159dev/lab1/sizes.cpp sizes.cpp

target




What would happen if you were in directory /csci159/lab1 and you execute the command

~$ cp sizes.cpp oldsizes.cpp

~$ cp sizes.cpp ../lab2/lab2.cpp

~$ cp ../../csci159/lab1/sizes.cpp sizes.cpp

~$ cp ../../csci159/lab1/sizes.cpp .

# The Wild Card (globbing)

```
~$ ls *.cpp
```

The autofill on the command line

```
~$ cd cs <tab>
```

# The Wild Card (globbing)

```
~$ ls *.cpp
```

The autofill on the command line

```
~$ cd csci159
```

if multiple files start with CS then it will fill to the longest common prefix and let you fill in the rest

Lab 2 makefile corrections

- in csci159/lab2
  - in makefile
    - 2nd echo line is missing "
      at end of line - add it
    - 2 lines below that

lab2x
~~chol x~~: lab2.cpp

- make those changes and it should work as advertised.

- don't change any thing else.

# C++ and Boolean logic

After the "if" should be an expression that evaluates to either true or false

true false are constant values "literals", like 3 or 'b'

if else are keywords in the C++ language

You cannot name a variable true, false, if, else.

Note: C++ is case-sensitive, so it does not recognize TRUE as true

```
if  true
{
        cout << "always print this.\n";
}
else
{
        cout << "Never print this." << endl;
}
```

# Type Casting

- change a value of one type to value of another type

```
int n = 9, m = 2;
double ans = n / m;
```

gives ans the value 4.

```
int n = 9, m = 2;
double ans = n / static_cast<double>(m)
```

gives ans the value 4.5

Old C : (double) m

New C++ : static_cast<double>(m)

# Boolean Expressions

true, false are constant values

- case sensitive
- TRUE and False are not recognized by C++ as predefined.

```
bool go = false;

go = wantTo && haveTimeTo;
```

"and"

wantTo: bool var

haveTimeTo: bool var

```
bool pass = false;
// exam is out of 100, termWork is out of 100
pass = (exam >= 50) &&
       (termWork + exam >= 100);
```

```
if (bilirubinHigh(bili) || cholHigh(hdl, ldl, sex))
{
    doctorMessage();
}
```

"or"

"equals"

```
if (sex == 'M') ...
```

If you want to have a more robust interface that accepts upper and lower case values from user ...

```
cin >> sex;
sex = toupper(sex); // ensures value is
                    // in upper case
```

if true ...

if booleanVariable ...

if (any other boolean expression)

↑ use parens - they are free

Not

To reverse the boolean value, prefix it with !

```
if (! verboseMode)
{
        cout << "Error.\n" ;
}
else    // verbose mode - say more
{
        cout << "Error of type " <<
                ErrType << "occurred in line"
                lineNum << endl ;
}
```

# Truth Tables

| Exp1 | Exp2 | Exp1 && Exp2 | Exp1 \|\| Exp2 | ! Exp1 |
|---|---|---|---|---|
| true | true | true | true | |
| true | false | false | | |
| false | true | false | | |
| false | false | false | | |

Precedence of operators

!, <, &&, ||.

! old && wise

use parens to establish the logic you want.