

(Text?) Editors



Learning Basic Math

```
% echo "#include <iostream>
> using namespace std;
>
> int main() {
>     cout << "2 + 2 = " << 4 << endl;
>
>     return 0;
> } " > math.cpp
```

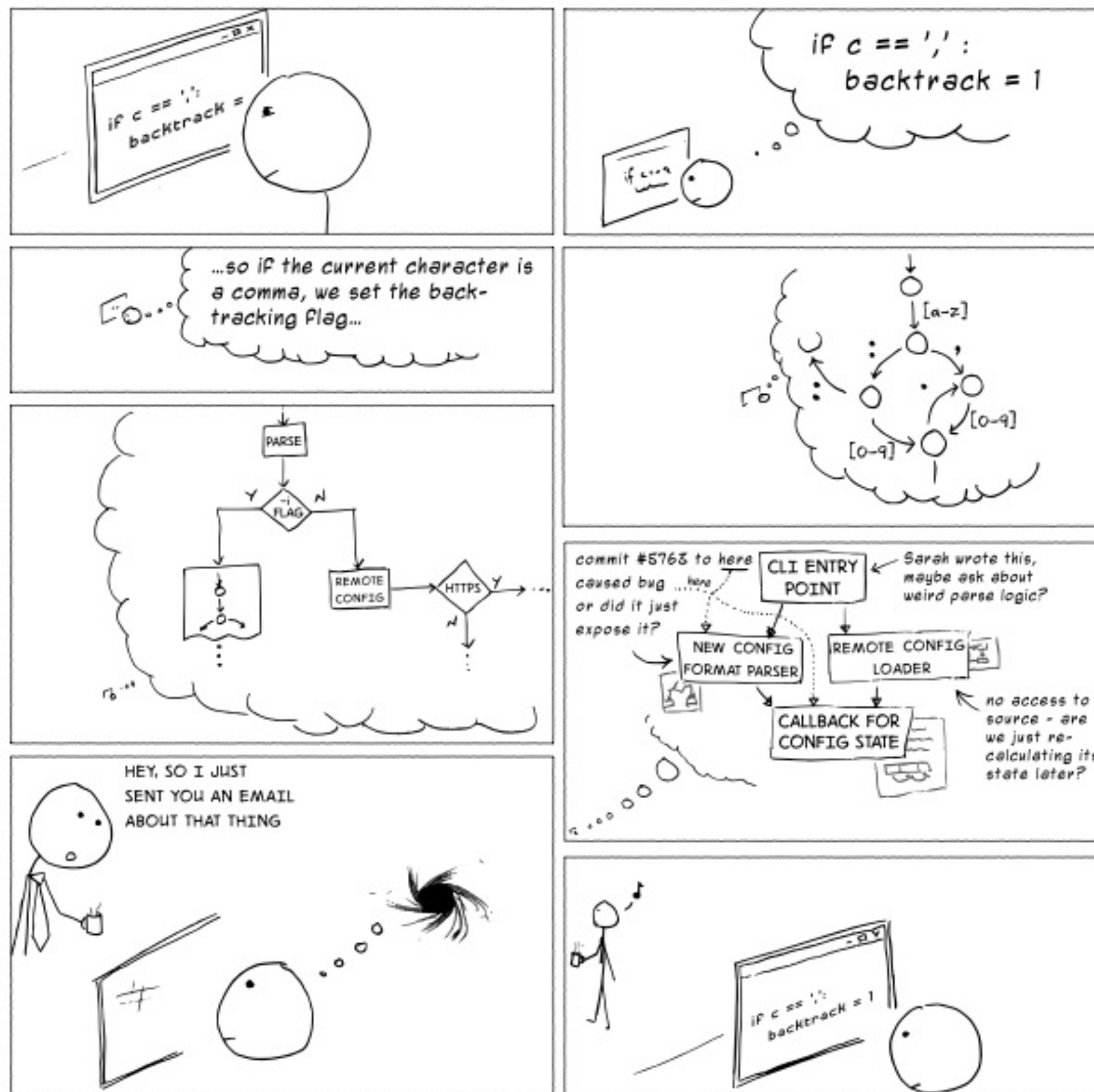
- That was cheap!
- Let's check it out...

Quick Game: Name an editor

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- https://en.wikipedia.org/wiki/Comparison_of_text_editors

THIS IS WHY YOU SHOULDN'T INTERRUPT A PROGRAMMER



Editors are the stuff between your head and the screen

- You can walk and talk
- You can walk and read
- Could you walk and code?

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Writing code is like writing text, until it isn't

- Organize an outline
- Choose a section, author a cohesive narrative
 - How long of a paragraph can you hold in your head?
 - How many lines of code can you hold in your head?

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Programmers are translating all the time

- Between what you want the machine to do (concept/spec) and *how* you tell the machine to do it (code)

Editor Wars: An Educated Guess

- Programmers fight about silly things
 - Tabs vs Spaces, Where to put Braces
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It is all about what best minimizes the friction between what's in your head and what's on the screen

- People tell me DVORAK is faster than QWERTY¹, but probably not for me

¹ [Cool article](#) questioning the "origin of QWERTY was to slow down typists" myth

Lecture Today

- **The Basics**

1. Marcus struggles mightily with emacs
2. And then does great in vim
3. We cover where the mouse is a winner
 - *Goal:* Minimal competency in everything, so you can work with others

- **The Fancy Stuff**

1. In "old" editors
2. In "new" editors
3. And what each other can't do
 - *Goal:* Exposure to the kind of things you can do. What is most useful is very personal.

Chart? Chart.

	emacs	vim	gedit
-----	-----	-----	-----
Save file	<code>C-x C-s</code>	<code>:w</code>	click save
-----	-----	-----	-----
Quit without saving	<code>C-x C-c n yes</code> <code>M-x kill-emacs</code>	<code>:q!</code>	click quit click no
-----	-----	-----	-----
Save and quit	<code>C-x C-s</code> then <code>C-x C-c</code> <code>C-x C-c y</code>	<code>:w</code> then <code>:q</code> <code>:wq</code> <code>:x</code> <code>ZZ</code>	click save click quit
-----	-----	-----	-----

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-----	-----	-----	-----

A digression: w vs x (vs ZZ)

- `:w` always writes, `:x` only if changed
 - Why do you care?
 - It's a bit annoying to need to care

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-----	-----	-----	-----
Quit without saving	<code>C-x C-c n yes</code> <code>M-x kill-emacs</code>	<code>:q!</code>	click quit click no
-----	-----	-----	-----
Save and quit	<code>C-x C-c y</code>	<code>:x</code> or <code>ZZ</code> <code>:wq</code>	click save click quit
-----	-----	-----	-----
Enter some text	...just type	<code>i</code> then type	...just type
-----	-----	-----	-----
Search for a string	<code>C-s</code>	<code>/</code>	make search appear click search

"Enter some text" in vim, oh the many ways

i is the easiest, yet probably least used, way to enter text

- **i** - Go into insert mode here
- **I** - Go into insert mode at the beginning of the line
- **a** - Go into insert mode right after here
- **A** - Go into insert mode at the end of the line
- **o** - Insert a new line below and go into insert mode
- **O** - Insert a new line above and go into insert mode
- **s** - Delete this character and go into insert mode
- **S** - Delete this line and go into insert mode
- **C** - Delete the line from here and go into insert mode
- **R** - Enter *replace* mode

Let's get attendance

www.tinyurl.com/c4cs-f17-ed

Reviewing some old magic

Remember Homework 2?

```
$ wget 'https://drive.google.com/uc?id=0B4qlH840ZwikbkZLS3Z5YTVSeW8&export=dow
nload' -O eecs280-w15-p2.tgz
$ tar -xf eecs280-w15-p2.tgz
$ echo -e '#include <cassert>\n#include "p2.h"\n' > p2.cpp
$ grep ';' p2.h | grep -v ' \*' >> p2.cpp

$ vim p2.cpp
# press 'jjj'    so that your cursor is on the i of int sum(...)
# press 'qq'     to begin recording a macro into the vim register q
# press 'f;'     jump to the ';' character
# press 's'      remove character under the cursor and enter insert mode
# insert the needed text:
# '<space>{<enter>assert(false);<enter>}<enter><escape>'
# press 'j'      so that your cursor is on the i of int product(...)
# press 'q'      to finish recording the macro
# press '16@q'   16 times play the commands stored in register q
```

"Vim sucks because"...

it can't copy / paste

- Yes it can, you just `y` ank and `p` aste instead
- And to cut you off, you can use `"+y` and `"+p` to yank and paste from the system clipboard

you can't use the mouse

- Yes you can, you just have to `set mouse=a`

the defaults are terrible not great

- Now you're getting somewhere

the time and pain required to learn it aren't worth the payoff

- I am honestly unsure.

This class in a nutshell:

- You are willing to type the same command over and over until you aren't
 - So you learn about the up arrow
- You master the game of up-up-up-enter up-up-up-enter until you drive yourself nuts
 - So you learn how to put these commands in a script
- *You might be willing to master a new skill faster if you knew it was out there, and someone guided you towards how to do it*

The goal is to expose you to many things, hope you master half, and can come back and pick up the rest when you're ready

- We do try to emphasize the ones worth mastering first
- Like version control. Seriously. Version control. All the things. Always.

A quick tour of some other editors and what they can do

- "General purpose" editors
 - Atom
 - Sublime
- Integrated development environments
 - XCode
 - Eclipse
 - Visual Studio