

# Vim 2

GPI '21 - Lecture 4  
Yosef + Deepti

# hackCMU 2021

A 24 hr event brought to you by [ACM@CMU](#)

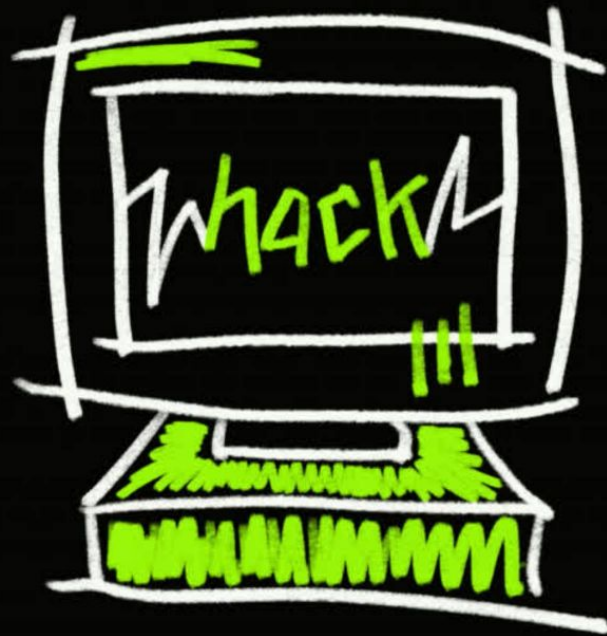
**location:** on campus TBD

**start:** october 1, 5:00 p

**end:** october 2, 8:00 pm

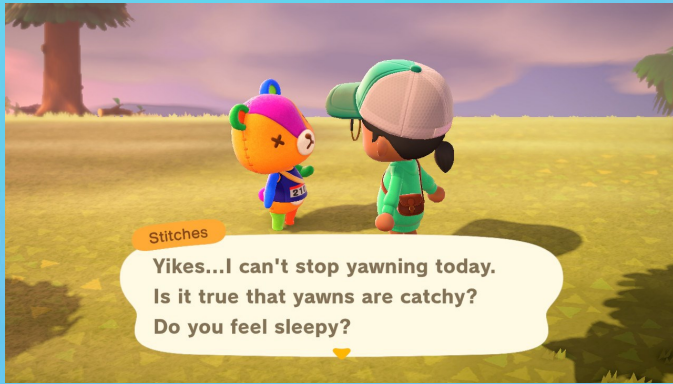
**register at:** [hackcmu.org](http://hackcmu.org)

\*\*Beginners are welcome!



Student sign up link: <http://tinyurl.com/hackcmu2021>  
Mentor sign up: <https://tinyurl.com/hackcmu21mentor>

# (Virtual) Pet Tax







# Vim

Part 2

# Vim Recap

**Normal mode** for commands

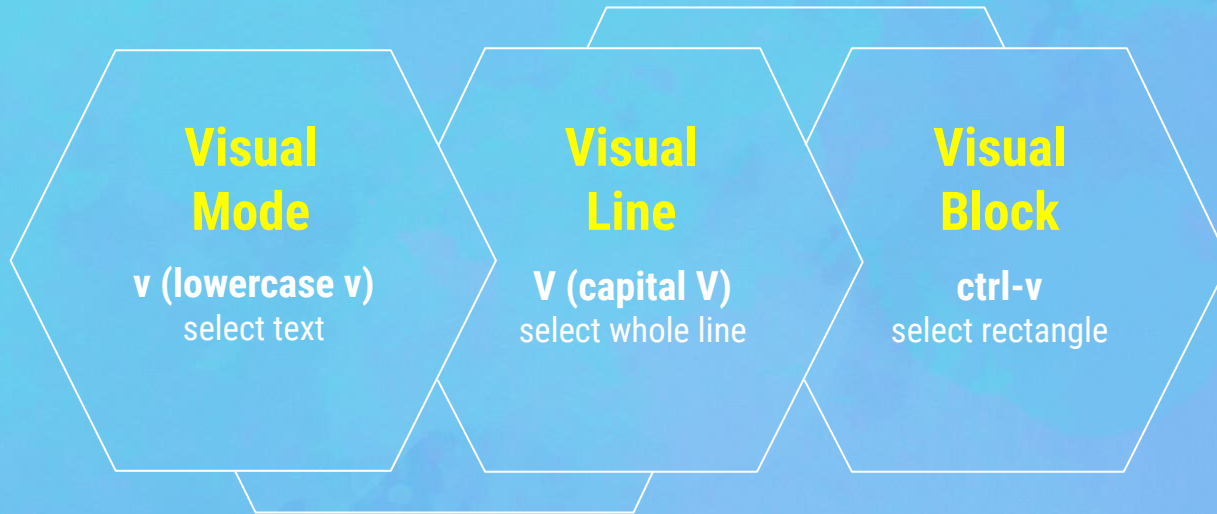
**Insert mode** for editing text

Undo	<code>u</code>
Redo	<code>:redo</code> OR <code>ctrl-R</code>
Save + Exit	<code>:wq</code> OR <code>:x</code>



⬡ ctrl not command on mac!

# More Modes



⬡ ctrl not command on mac!

# Text Objects

<number><command><text object or motion>

**2d**eleteword

- ⬡ **<number>**: how many times to perform <command>
- ⬡ **<command>**: change, delete (cut), yank (copy), etc.
- ⬡ **<text object or motion>**: word, sentence, paragraph, etc.



# More Text Objects

**i**

**"ci}"**

**c**hanges **i**nside {curly braces} and goes into **insert mode**

**"da("**

**d**eletes **a**long with (parens)

**a**

- works with most delimiters
  - ◀ " { [ ( ' ` <
- **t** and **p**
  - ◀ change/delete html tag/paragraph contents

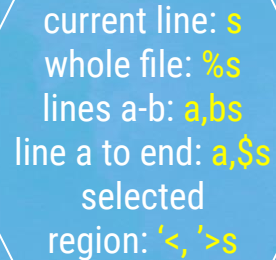


# Substitutions

Find and Replace, but with Vim and regex!

`:s/<find>/<replace>/<flags>` OR `:s:<find>:<replace>:<flags>`

- In **normal mode**
- Specify **ranges** before the s
  - `:10,30s/foo/bar`
  - `:%s/foo/bar/g`
- Example **flags**
  - `g` = every occurrence
  - `c` = confirm before applying



current line: `s`  
whole file: `%s`  
lines a-b: `a,bs`  
line a to end: `a,$s`  
selected  
region: `'<,'>s`

- regex = regular expression / pattern that matches against certain strings
- `:noh` = “no highlight” / for erasing highlights



# Vim

Demo!

# Tabs & splits!

- In the vim command line
  - `:tabe file_name.txt` to create a tab
  - `:tabprevious/ tabnext` to navigate
- Splitting a tab
  - `:vsplit` for vertical screen splits
  - `:split` for horizontal screen splits
  - `<Ctrl-w>{h,j,k,l}` to switch between split screens

# Macros

- Used for recording a sequence of commands and executing it one or more times
- Create a macro:

**q**<letter><commands>**q**

- Execute the macro <number> times (once by default):

<number>**@**<letter>

- Must run the macro at the same places -  
Use **j0** to go to the start of the next line at the end of the macro

start recording:  
**q**<letter>  
stop recording: **q**  
execute once: **@**<letter>  
execute again: **@@**  
view contents of a register:  
**:reg** <letter>  
more info: **:h recording**



Where do the sequences of commands given to **macros** go?

**Registers!**

<commands>

<commands>

...

# Registers

- Registers are spaces in memory that vim uses to store some text. Each has an identifier for later access
- Use the ones denoted with letters (a-z) for regular use
- Numbered registers, the default register, the blackhole register and read-only registers all have special purposes
- Accessed using a double quote before its name. Ex: **"r**
- Copy (yank) the selected text to the register r with **"ry**
- Paste the content of register r with **"rp**
- See all registers with **:reg**
- See contents of specific registers with **:reg <space separated register names>**  
Ex: **:reg a b**

# Black hole Register

- Is a write-only register that can be accessed with `"_`
- Where vim writes to if it doesn't want to keep track of the text
- Nothing returned if read from

# Default Register

- An unnamed (or default) register that can be accessed with `""`
- Any text that you **delete** (with **d**, **c**, **s** or **x**) or **yank** (with **y**) will be placed there
- Vim uses this to paste, when no explicit register is given i.e. the command **p** is the same as doing `""p`

# Numbered Registers

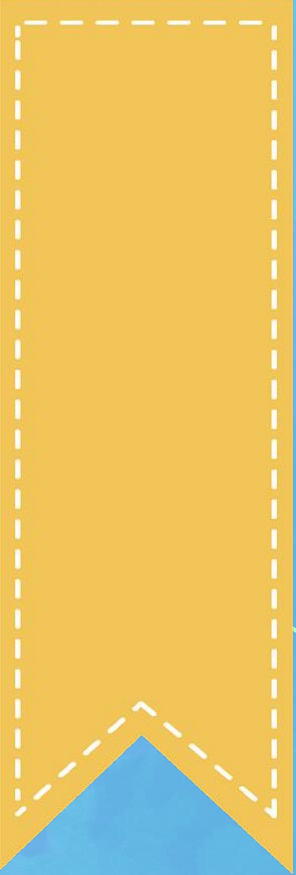
- Registers from "0 to "9
- Automatically populated by vim
- "0 has the content of the latest yank
- The others will have last 9 deleted texts - "1 being the newest and "9 the oldest
- Can paste yanked text it using "0p



# Read-only Registers

4 read-only registers: ".", "%", ":" and "#"

- "." has the last inserted text
- "%" has the current file path, starting from the directory where vim was first opened
- ":" is the most recently executed command
- "#" is the name of the alternate file a.k.a the last edited file

A yellow bookmark icon with a dashed white outline, positioned on the left side of the slide. It has a rectangular top and a pointed bottom.

Tired of remembering line numbers, column numbers, and/or file names?

Book**mark** positions  
with **Marks!**

# Marks

- Let you bookmark your current position so you can jump to it later
- They are invisible
- Each file has a set of marks identified by lowercase letters (a-z)
- Uppercase letters (A - Z) denote a set of marks used to globally identify a position within a particular file
- Setting a mark with lowercase letters removes the existing one in **current** file
- Setting with uppercase letters removes the existing one in **any** file

Set Mark	<code>m&lt;letter&gt;</code>
Jump to Line of Mark	<code>'&lt;letter&gt;</code>
Jump to Position of Mark	<code>`&lt;letter&gt;</code>
Delete till Line of Mark	<code>d'&lt;letter&gt;</code>
Delete till Position of Mark	<code>d`&lt;letter&gt;</code>
Change Text of Lines Till Mark	<code>c'&lt;letter&gt;</code>
List All Marks	<code>:marks</code>
List Certain Marks	<code>:marks &lt;comma-separated letters&gt;</code>

# More Commands with Marks

Jump to Next  
Line of Mark

}  
}

Jump to Prev  
Line of Mark

{  
{

Jump to Next  
Mark

}  
}

Jump to  
Previous Mark

{  
{

Delete Mark

:delmarks a

Delete Marks  
in Range

:delmarks a-c

Delete Specified  
Marks

:delmarks abc

Delete All  
Lowercase Marks

:delmarks!





- **SportsLab** due 11:59 pm ET tonight
- Extratation this Saturday 1-2 pm at GHC 4211: **Interview questions**
- **Course Feedback** on [tinyurl.com/f21-gpi-feedback](https://tinyurl.com/f21-gpi-feedback)



- **fix-typos**

- ◀ don't swap the names in the header

- **hogwarts**

- ◀ leave TWO spaces between books and MORE
- ◀ deleting inside the <container> tag leaves the closing tag on a new line, which is not considered correct. the tags should be next to each other (vim version dependent)
- ◀ after deleting paragraphs there should be ONE line in between them