



Vim Introduction

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Terminal

- What is Terminal?

Terminal

- What does this mean?

No Desktop Environment Utilities

- Window Mechanism
- Clip Board
- Mouse
-

Terminal

- How do you write program painlessly?

Use Powerful Text Editors

Vim Basics

- Switch Files
- Read
- Navigate
- Edit

Vim Basics

- Why Vim?

Light weight

Nearly every machine

E.g. A smart toaster

Vim Basics

- Why Vim?
 - Text Editor
Notepad++, Sublime, EmEditor, VS Code
 - IDE
Visual Studio, JetBrains, Jupyter, Eclipse, R Studio

Vim Basics

- Vim is complicated but not tough to learn.
- Be patient and Try more

Vim Basics

- Install it
 - RedHat/CentOS: `yum install vim`
 - Debian/Ubuntu: `apt-get install vim`
 - Arch/manjaro: `pacman -Su vim`
 - Alpine: `apk add vim`

Vim Basics

- Install it

Make sure you got the “Huge version”

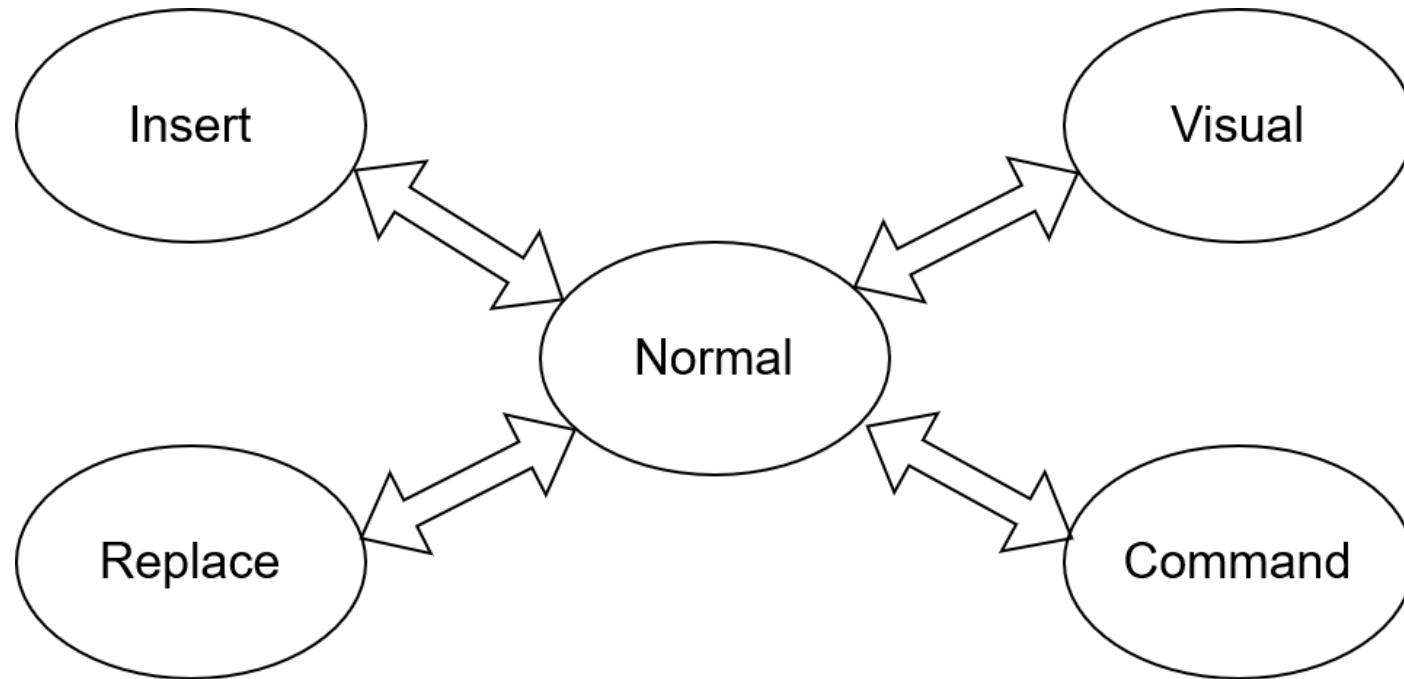
```
haolin@haolin-virtual-machine:~$ vim --version
VIM - Vi IMproved 8.1 (2018 May 18, compiled Feb 01 2022 09:16:32)
Included patches: 1-2269, 3612, 3625, 3669, 3741
Modified by team+vim@tracker.debian.org
Compiled by team+vim@tracker.debian.org
Huge version with GTK3 GUI.  Features included (+) or not (-):
+acl            -farsi          -mouse_sysmouse  -tag_any_white
+arabic         +file_in_path    +mouse_urxvt     +tcl
+autocmd        +find_in_path    +mouse_xterm     +termguicolors
+autochdir      +float           +multi_byte      +terminal
-autoservername +folding         +multi_lang      +terminfo
```

Vim Basics

- What matters?
 - **Cursor** -> motion
 - Buffer(File)
 - Window

Vim Basics

- Modes



Vim Basics

- Modes
 - Normal

Move cursor, screen; Change file; Switch to other modes
 - Insert/Replace

Regular text Edit mode
 - Visual

Selection text & visualize it
 - Command

Use command to interact with vim

Vim Basics

- Prepare Material

Tutorial #1

- Gulliver's Travels

```
vim Gullivers_Travels.txt
```


Tutorial #1

- Motion

H: Left

L: Right

J: Down

L: UP



Tutorial #1

- Motion

Move a unit of a word:
w, W, b, B, e



Tutorial #1

1-9: Repeat the following action

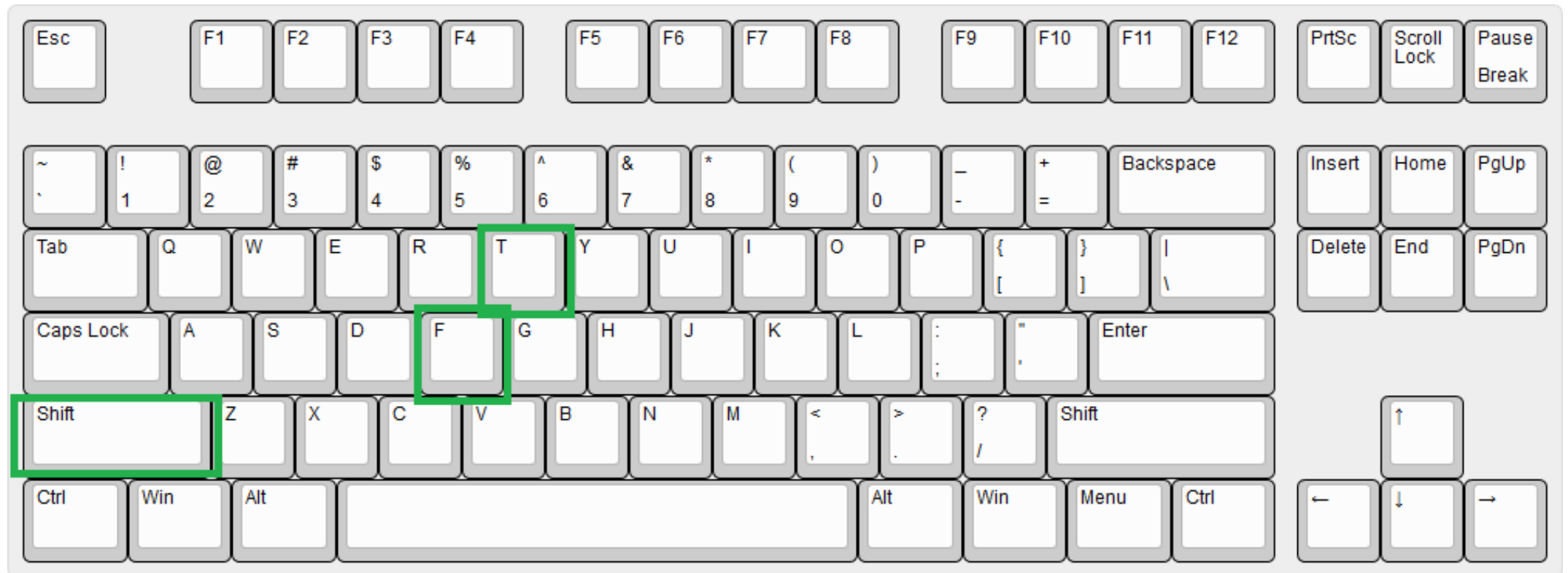
- Repeat



Tutorial #1

- Motion

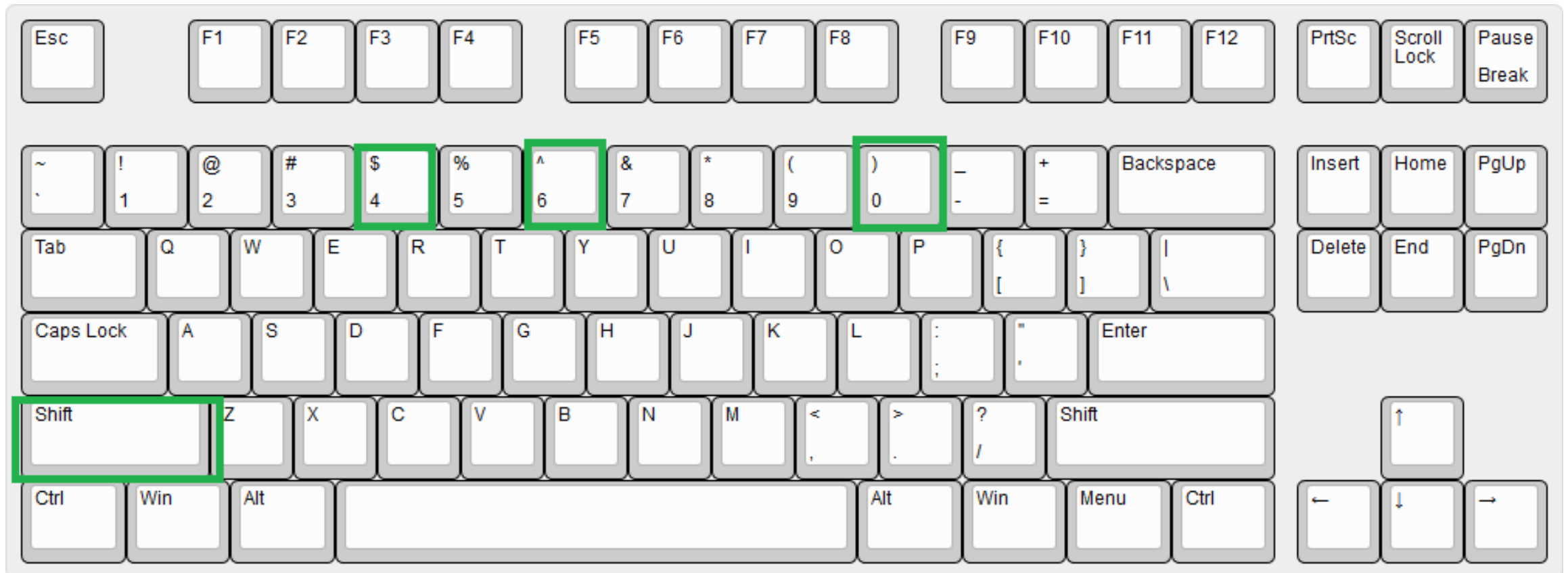
`f[key]`, `t[key]`: Move to `[key]` in right
`F[key]`, `T[key]`: Move to `[key]` in left



Tutorial #1

^: First character, \$: END
0: Home

- Motion



Tutorial #1

- Motion

gg: start of the article

G: end of the article

[number]gg, G: Jump to line

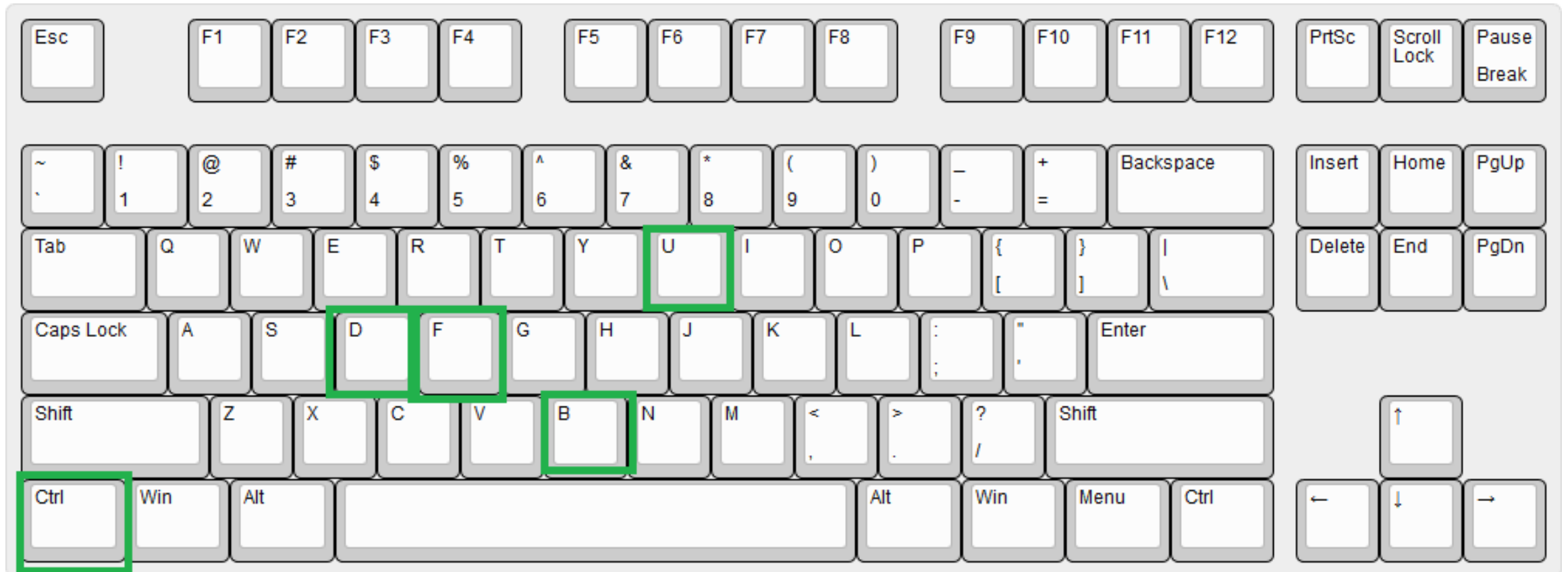
Ctrl+g: display the position



Tutorial #1

Ctrl+u, Ctrl+b: Page Up
Ctrl+d, Ctrl+f: Page Down

- Screen



Tutorial #1

- Motion

H: top of the screen

M: middle of the screen

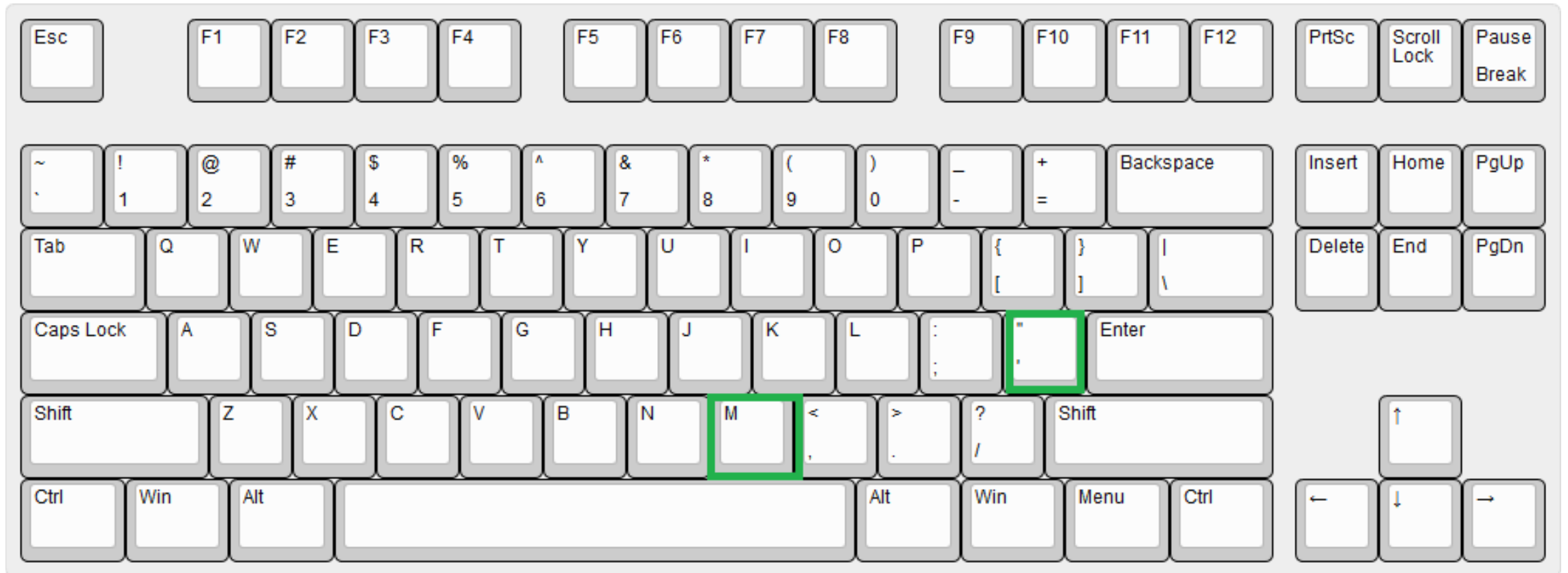
L: low of the screen



Tutorial #1

`m[key]`: add a mark & store it on `[key]`
`'[key]`: jump to a mark

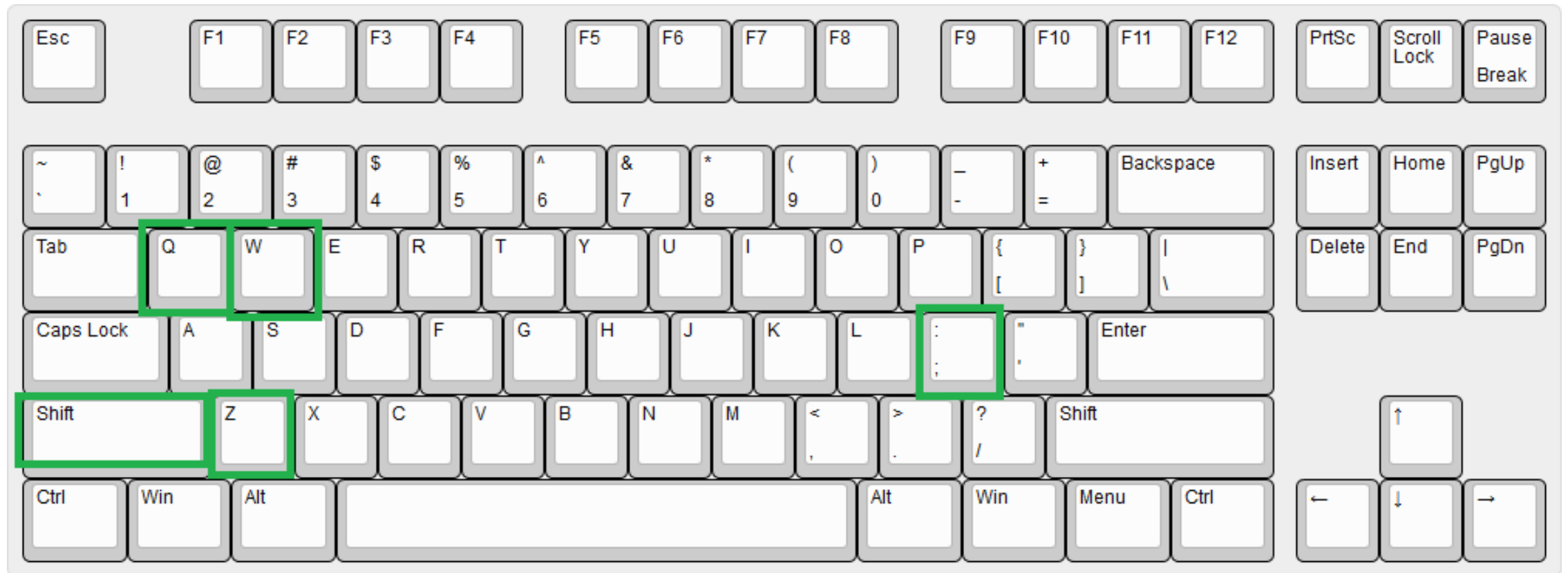
- Motion



Tutorial #1

:q, :qa, :q!, :wq, :x
ZZ, ZQ

- Quit



Tutorial #1

- Great, you know how to use vim as a text viewer

Tutorial #2

- Get all prime numbers between 10 and 1000

Prime number has only two factors, 1 and itself

Tutorial #2

- Configuration

In ~/.vimrc

```
set num
set ts=4
set sw=4
set et
Syntax on
filetype on
filetype indent on

set mouse=a
set laststatus=2
set hls
```

Tutorial #2

i: insert, I: insert at ^
a: append, A: append at \$

- Text Edit



Tutorial #2

o: open a new line below
O: open a new line above

- Text Edit



Tutorial #2

r: replace a character
R: into Replace Mode

- Text Edit



Tutorial #2

u: undo
Ctrl+r: redo

- Text Edit



Tutorial #2

d[motion], dd, D
c[motion], cc, C
X, S

- Text Edit



Tutorial #2

dw, dW, db, dB, de
diw, daw
c[motion]

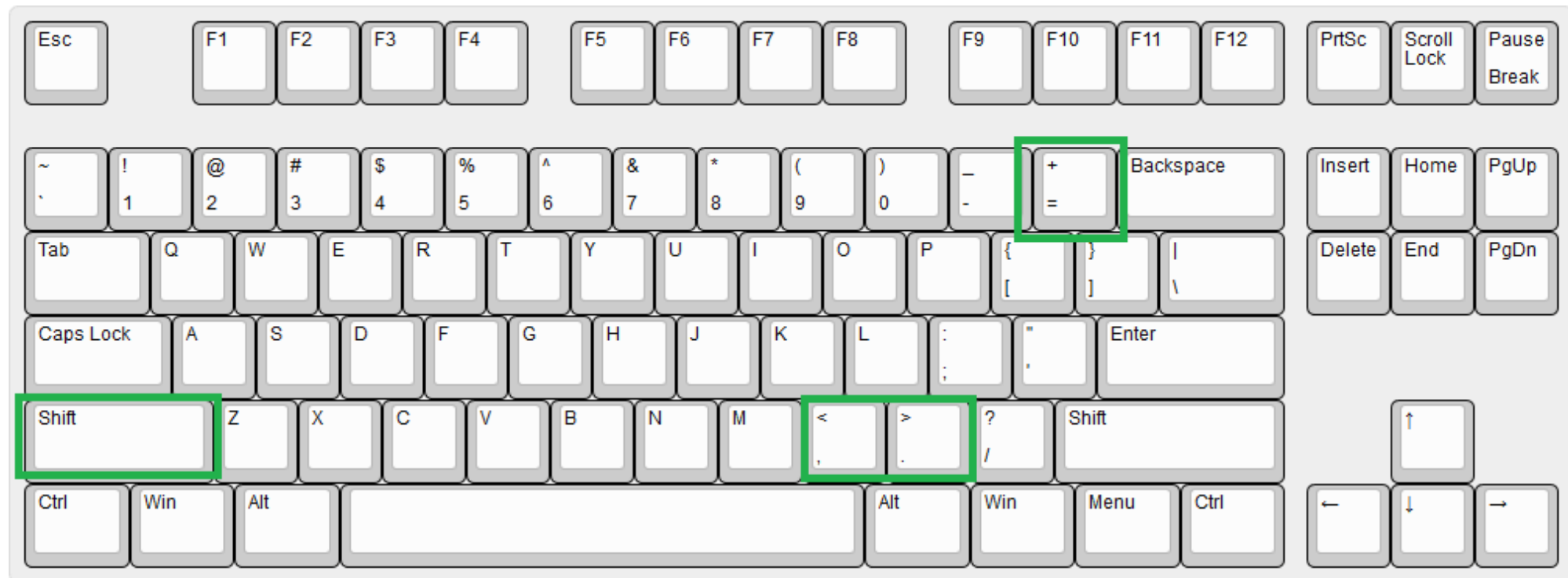
- Text Edit



Tutorial #2

<<, >>, ==: del/add/auto indent

- Text Edit



Tutorial #2

.: repeat the last change

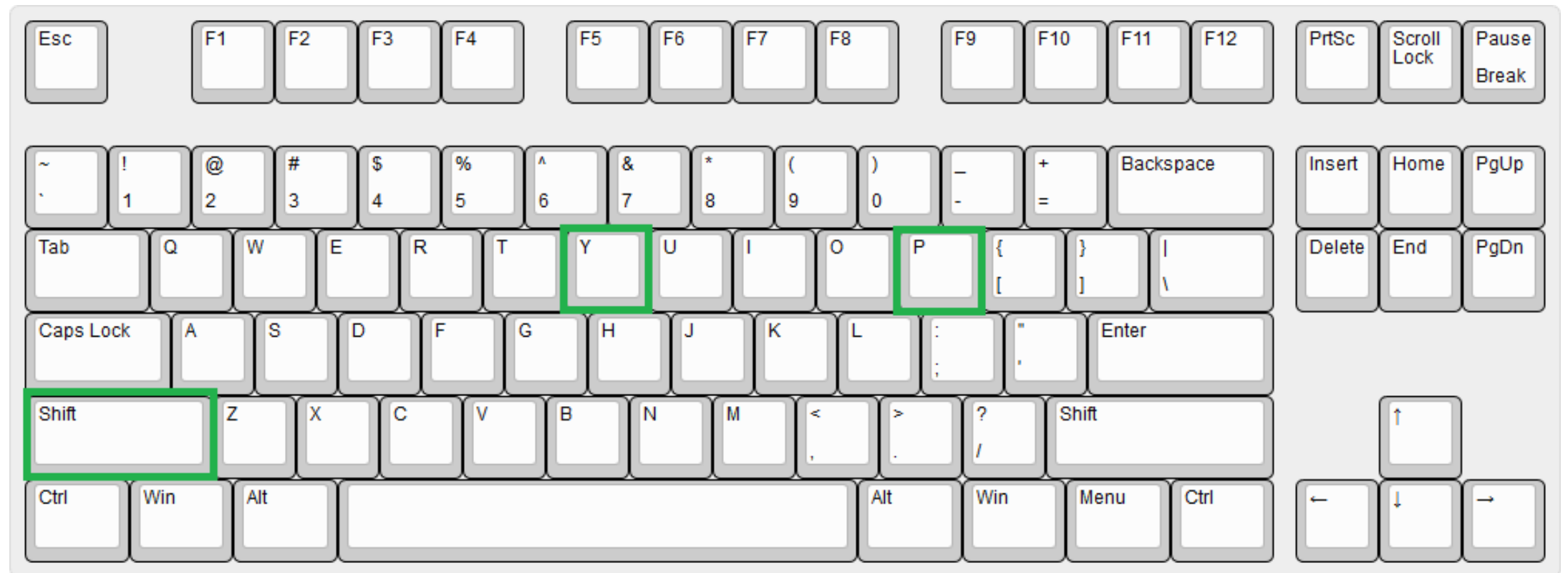
- Text Edit



Tutorial #2

y: Copy(yank), yy, Y: Copy the line
p: paste below, P: paste above

- Text Edit



Tutorial #2

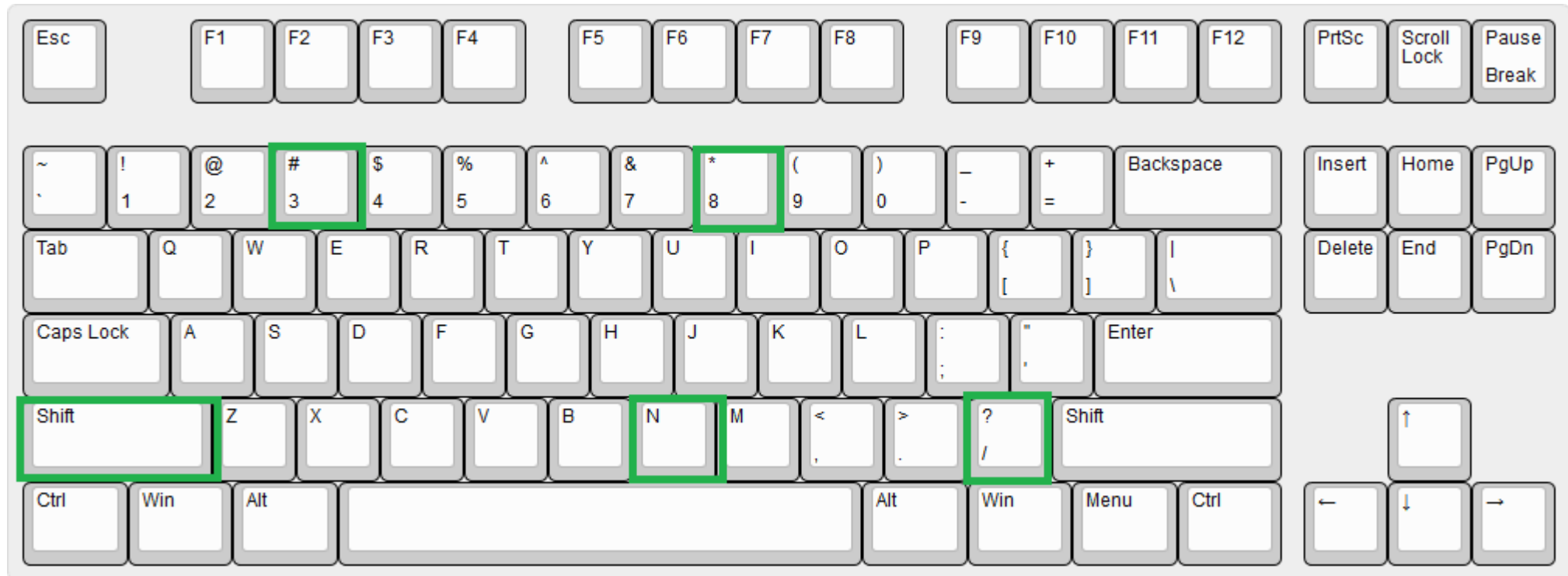
- Text Search

`/`: search below (use `n/N` to switch)

`?`: search above

`*`: search the current word below

`#`: search the current word above

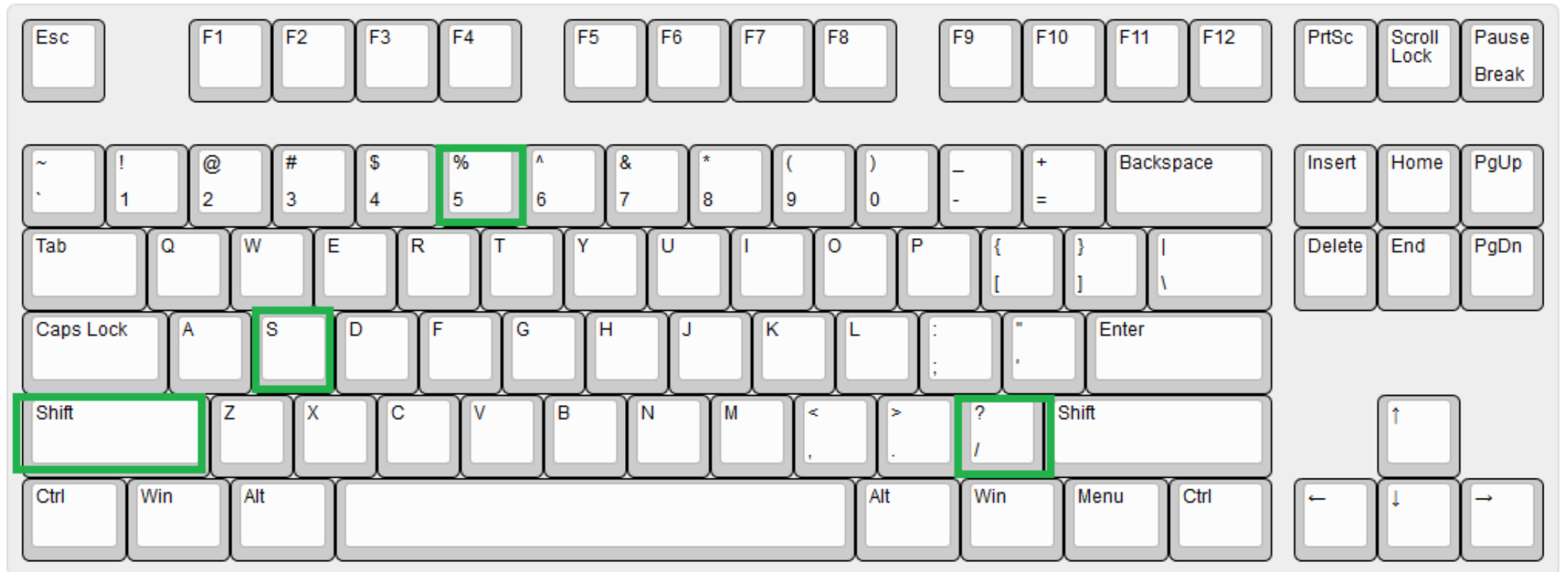


Tutorial #2

`:s/<old>/<new>:` replace

`:%s/<old>/<new>:` replace in all lines

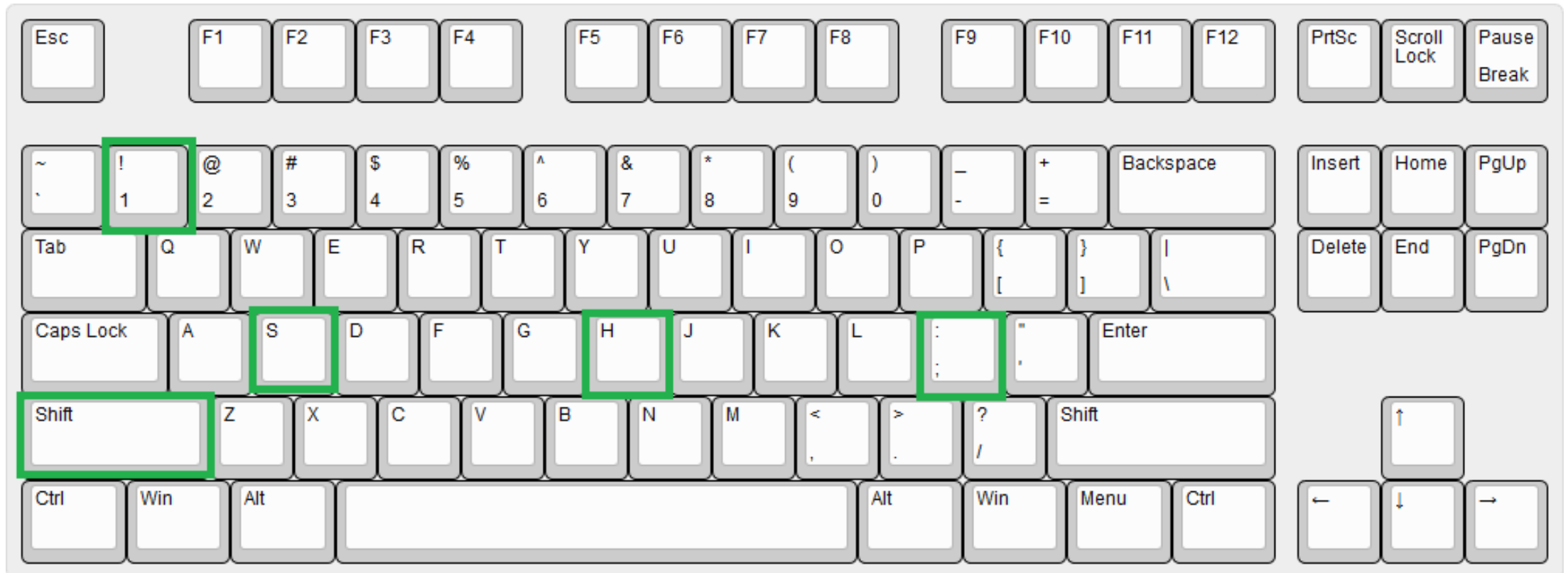
- Text Search



Tutorial #2

:!`<command>`: run external command
:sh open a shell

- Text Search



Tutorial #2

- Vim is a proper editor for you

Tutorial #3

- My Zoo

Animal

Dog can bark!

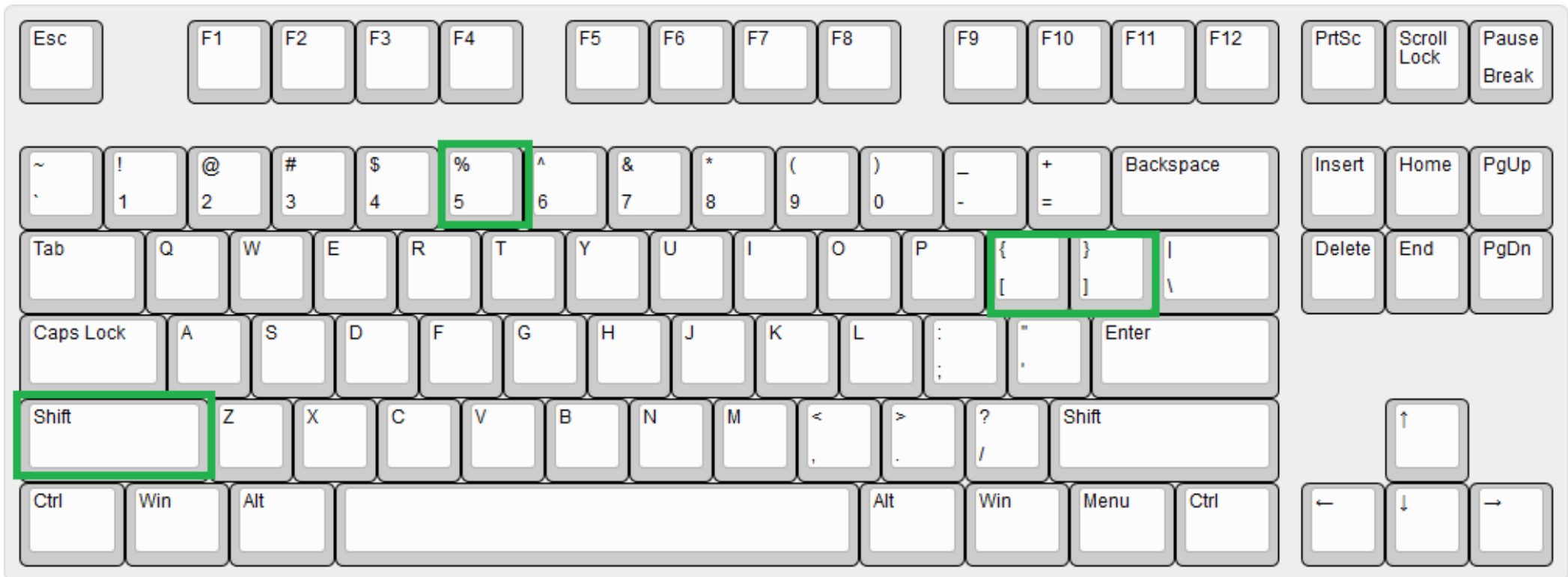
Cat can meow~

Tutorial #3

- Motion

`%` : jump to the other parentheses

`{, }`: jump to the previous/next paragraph



Tutorial #3

`v[motion]`: Visual Mode
`V[motion]`: Visual-Line Mode
`Ctrl+v[motion]`: Visual-Block Mode

- Text Selection

`vi[motion]`, `va[motion]`



Tutorial #3

- Text Selection

1. Enter visual mode
2. Use your mouse



Tutorial #3

After selection:

d, c, y, I, x, ~, :s

- Text Edit

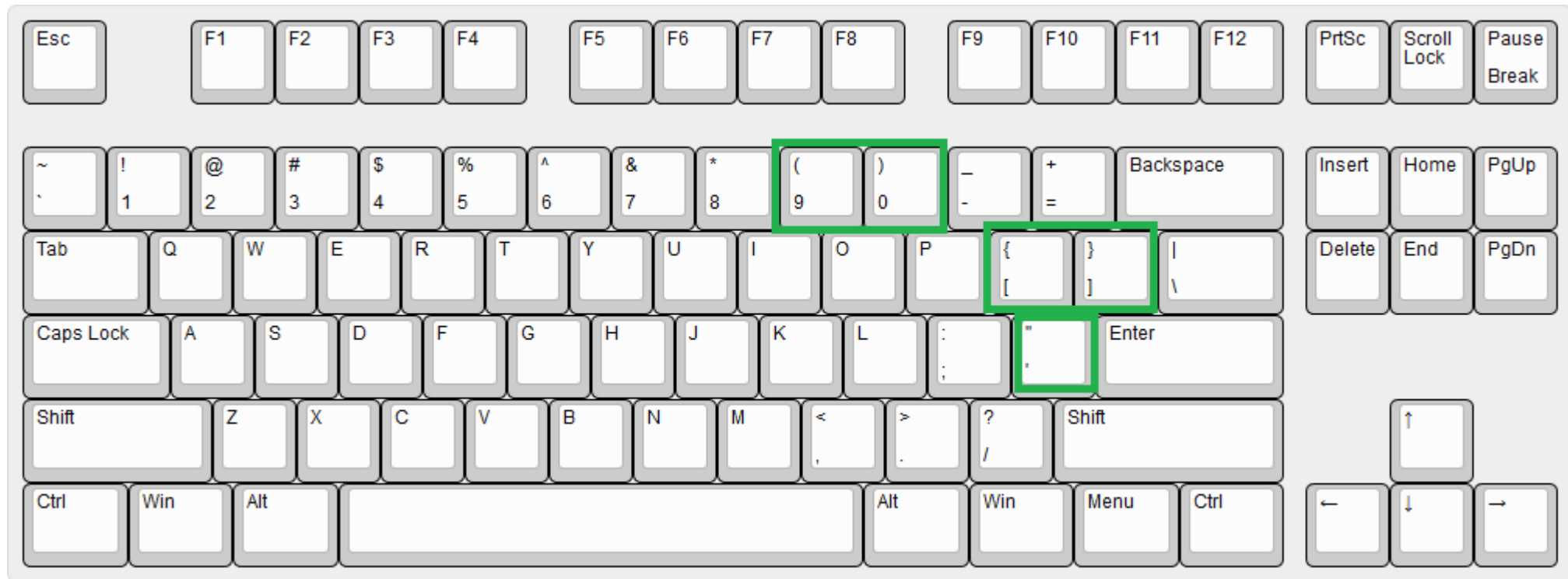
(Multiply line mode behaves differently)



Tutorial #3

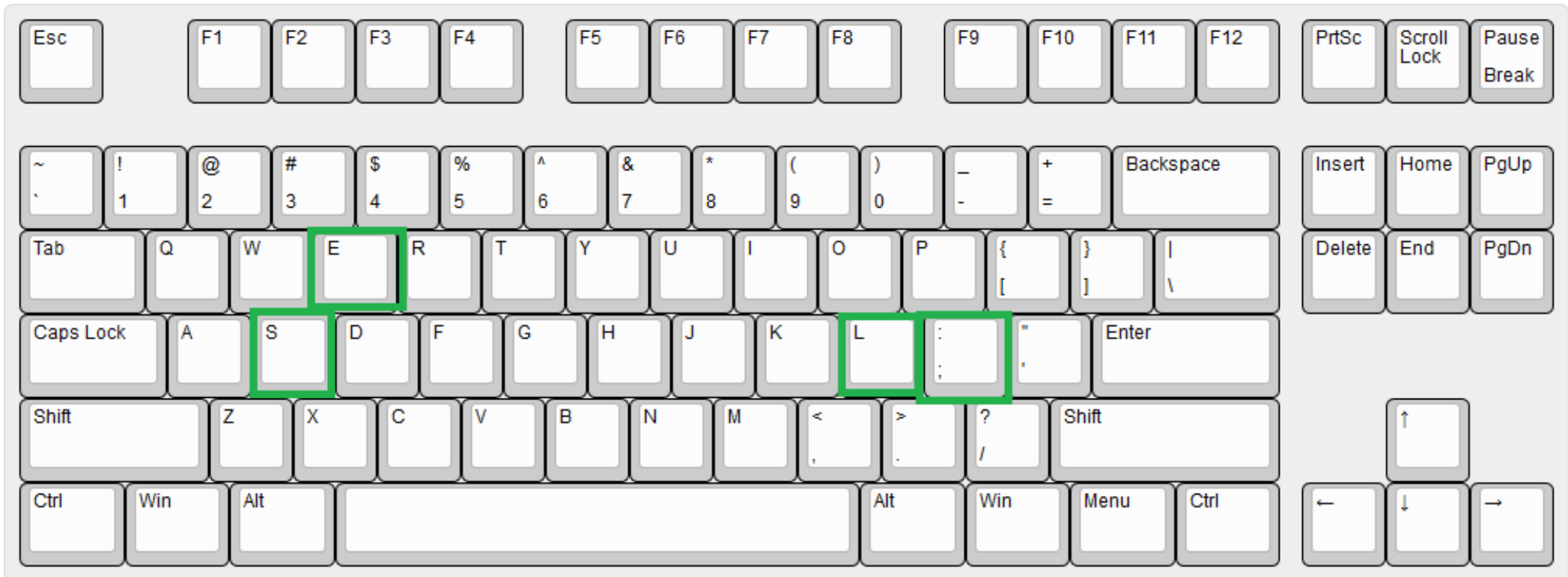
- Text Edit

```
vi[key], va[key]  
di[key], da[key]  
ci[key], va[key]
```



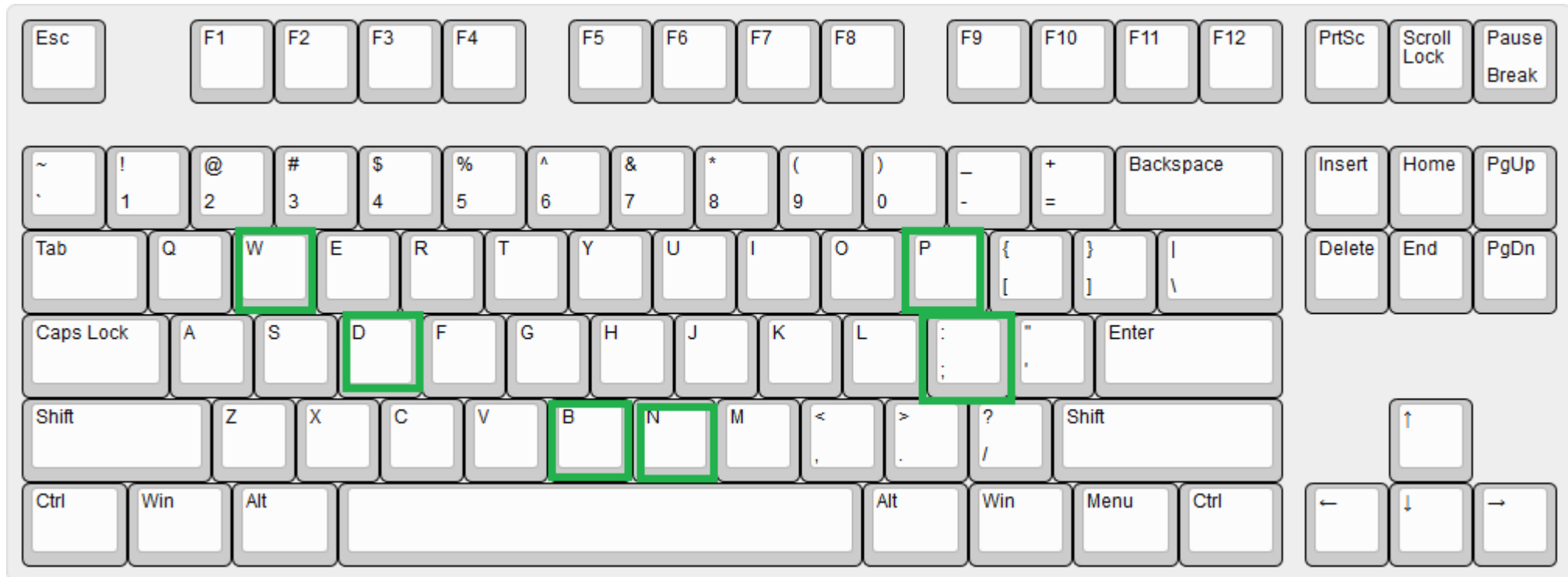
Tutorial #3

- vim [filepath_1] [filepath_2] ...
- :edit [filepath]
- Buffer(File) Open
- :ls: list all buffers



Tutorial #3

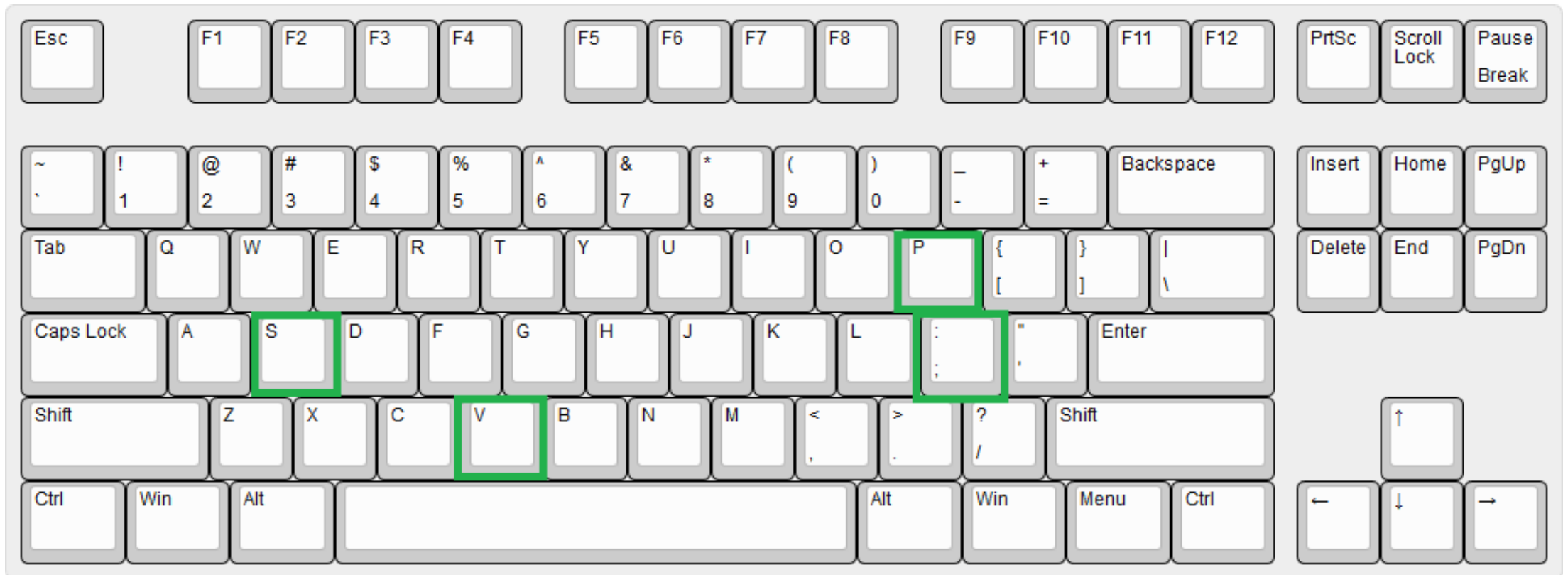
- Buffer(File) Switch
 - :bn, :bp: switch to the next/previous buffer
 - :b[number]: switch to a given buffer
 - :bd, :bw: del/save & close the current buffer



Tutorial #3

- Window Split

- `vim -o/-O [filepath_1] [filepath_2] ...`
- `:sp, :vsp`: horizontal/vertical split]
- `:only`: display only one window
- `:q`: close the current window



Tutorial #3

- `Ctrl+w+ +/-`: increase/decrease height
- `Ctrl+w+ </>`: widen/narrow

- Window Resize

Tip: use numbers to repeat the action



Tutorial #3

- `Ctrl+w+ h/j/k/l`: move the cursor to another window
- Window



Tutorial #3

- Swap file

Lost connection, power, or hardware issues?

`.<file_name>.swp` holds all your changes

More

- Regular Expression
- Key Mapping
- Macro
- Plugins
- Language Related Tools
- ...



Thank You

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