

# CS2030S Cheatsheet

for PEs AY23-24, Sem 2

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## Vim Config

Prefix command with **:** to do in command line.

**set number** Shows line number.  
**set colorcolumn=80** Sets character limit visual cutoff  
**set visualbell** Visual indicator when end is reached

## Vim Shortcuts

### Commands

**:w** Write  
**:wq** Write & quit  
**:q** Quit

**:tabnew file** Open new tab  
**gt** Next tab  
**gT** Previous tab

**vim -d <f1> <f2>** Compare two files

### Normal Mode

**u** Undo  
**Ctrl + r** Redo  
**.** Repeat last

**yy** Yank a line  
**dd** Cut a line  
**p** Paste after cursor  
**P** Paste before cursor

**gg=G** Indent everything  
**>** Indent line  
**<** Unindent line

### Visual Mode

**y** Copy marked text  
**d** Delete

## tmux Shortcuts

**tmux** New session  
**tmux ls** List sessions  
**tmux at** Attach last session  
**tmux kill-ses -a** Kill all session

**Ctrl + b + %** Create horizontal pane  
**Ctrl + b + "** Create vertical pane  
**Ctrl + b + o** Switch pane  
**Ctrl + b + x** Close pane  
**Ctrl + b + &** Close window

## Others

**jobs -l** See all jobs  
**fg %n** Bring back job *n* to foreground (for Ctrl-Z processes)

## Style Guide

### Spacing & Indentation

1. Lines should be limited to **100 characters**.
2. Comments should be indented at same level as surrounding code.

### Classes

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2. Every top-level class resides in source file of its own
3. Overloaded methods should appear consecutively.

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### Braces

1. Egyptian brackets need to be used.
- Opening brackets** - no line break before, line break after  
**Closing brackets** - line break before, line break after (unless *else* or comma following);

### Lines

1. One blank line after import
2. Each statement is followed by a line break.

### Identifiers

1. One variable per declaration.
2. Arrays are to be declared *A[] arr*
3. Class modifiers: **public** protected **private**  
**abstract** default **static final** transient volatile synchronized native strictfp
4. Class names written in **UpperCamelCase**
5. Method names written in **lowerCamelCase**
6. Constants (static final) in **ALL\_CAPS\_SNAKE\_CASE**

### Statements

1. Switch statements need a default case
2. One annotation per line
3. Always use *@Override*
4. Caught exceptions should not be ignored.
5. No wildcard imports. *import java.util.\**
6. Import statements should be in alphabetical order.

## String Formatting

**%s** string  
**%d** decimal  
**%f** floating point  
**%.1f** floating point to 1 d.p.  
**%c** char

## Exceptions

**Checked Exceptions** *extends* **Exception**

Checked at compile time.

**Unchecked Exceptions** *extends* **RuntimeException**

Not checked at compile time.

**Constructor:** *(Runtime)Exception(String msg)*

If it is possible for exceptions to be thrown for the method, even when it is not all the time, it must be thrown in the **parent** class method.

If an overloaded method throws an exception, it must be a **subtype** of the exception thrown in the parent class.

## Annotations

*@Override* for any overridden method, be it from interface or extended class.

*@SuppressWarnings("unchecked")* when explicitly typecasting.