

Programming Tips

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Best practices & Tips

Don't depend unnecessary - [leftpad](#)

Clean code - [summary](#)

- DRY - Do not Repeat Yourself
- Loose coupling
- Less parameters in functions
- ...

Design Patterns - Refactoring Guru

OOP

- Encapsulation

- Inheritance
- Abstraction
- Polymorphism
- SOLID
 - Single Responsibility
 - Open for extension, closed for modification
 - Liskov Substitution principle
 - Interface segregation
 - Dependency Inversion

Database Normalization - read [here](#)

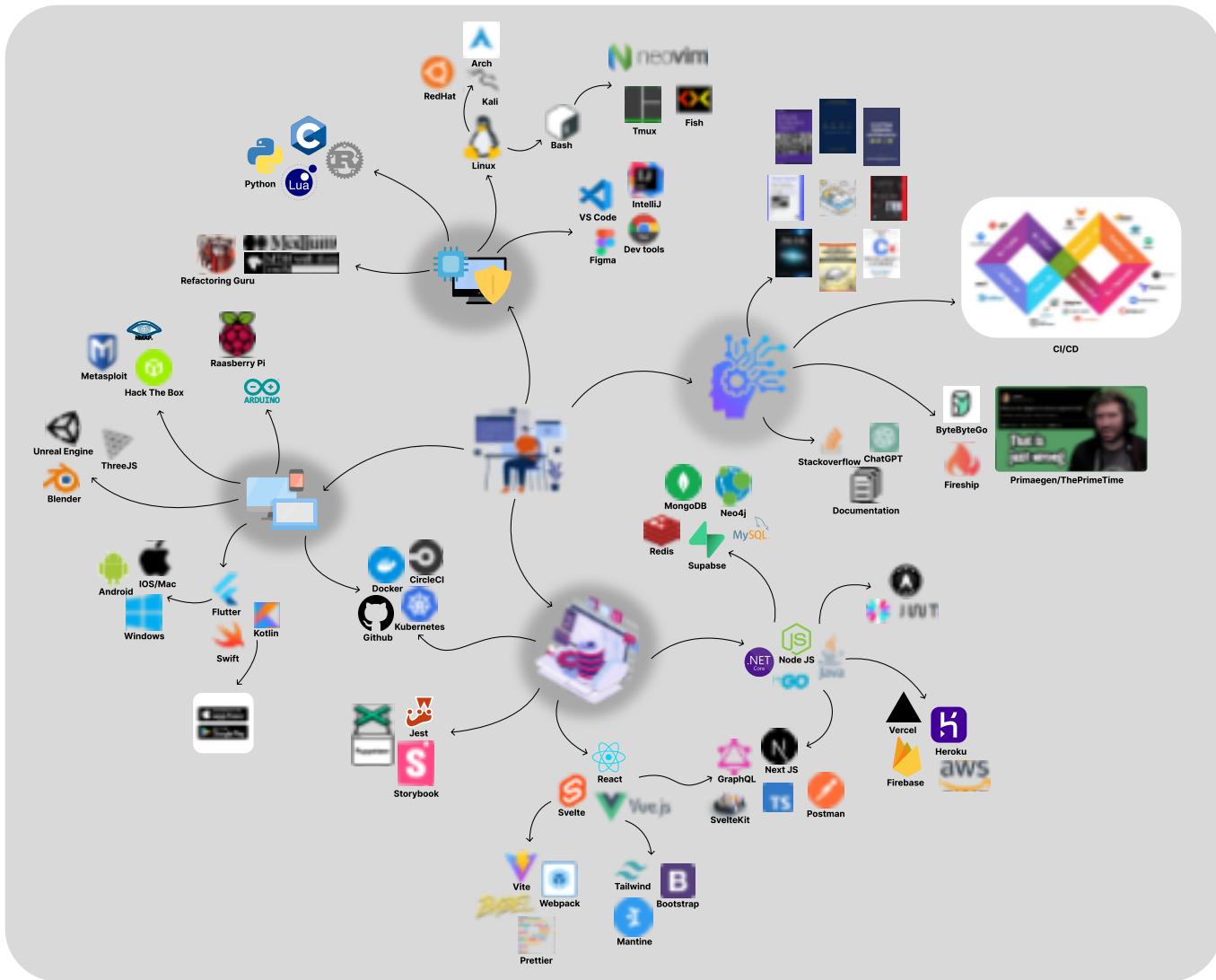
ex: no JSON in a column

Unit tests

```
function sum(a, b) {  
    return a + b  
}  
  
expect(sum(2, 3)).toBe(5)
```

Do not test 3 party - db, dependencies !!!

Tools & Languages



Details

Web

- Frontend
 - Frameworks/libraries - React, Svelte, Vue, Angular
 - Helper libraries - scss (css), Tailwind (css), Bootstrap (css), Mantine (react), Redux (react - state management), jQuery (js)
 - Additional tools - Vite (bundler), Webpack (bundler), Babel (transpiler), Prettier (code formatter), Eslint (linter), postcss (css transformer)
- Full-stack tools
 - Metaframework - Next (React), Nuxt (Vue), SvelteKit
 - Connection - GraphQL, gRPC, Postman

- With templates - Pug | Handlebars (Express), Razor Pages | Blazor | MVC (.NET), Jinja (python)
- Backend
 - Languages/frameworks - Go, NodeJS, Express (js), Nest (js), SpringBoot (java), .NET (C#), Django (python), Rocket (Rust), Laravel (php), Ruby on rails
 - Authentication - JWT, OAuth 2
 - Deployment - Vercel, Firebase, Heroku, AWS, Azure, Linode, Supabase
 - Databases
 - Relational - MySQL, MariaDB, SQLite, Postgres, Supabase
 - Graph - Neo4j, Amazon Neptune, ArangoDB, Azure Cosmos DB
 - Document - MongoDB, CouchDB, Firestore, Surreal
 - Wide-column - Cassandra, ScyllaDB
 - Key-value - Redis
 - Other databases - vector, search, multi-model...
 - ORM - Supabase, Prisma
- Testing
 - Unit - Jest (js), Junit (Java), MS Unit test (C#), Pytest (python)
 - End to end - Storybook, Puppeteer
 - Other - Integration, System, Load, Error, Smoke, Regression, Stress, Security, Fuzz, Functional, Performance
- Distributing
 - Code management - Github, Gitlab, Bitbucket
 - Docker, Kubernetes
 - CI/CD - CircleCI, Jenkins

Non-Web apps

- Mobile/Desktop
 - Languages/Frameworks - Flutter (cross platform), React Native (cross platform), Kotlin (Android), Swift (IOS/Mac)

- Stores - Google Play (Android), App store (Apple)
- OS - Windows, Linux, Mac, Android, IOS
- 3D & Games
 - Web - ThreeJS (graphics), Rapier | Ammo | Cannon | Oimo (physics)
 - Engines - Unity, Unreal, Godot
 - Blender
- Cybersecurity
 - Hack the Box - platform for learning
 - Tools - Nmap, Wireshark, Metasploit, Linux
- Embedded Systems - Arduino, PlatformIO, RaspberryPi

Deep dive

- Resources - Medium, dev.to, MDN, Refactoring Guru, documentations...
- Languages
 - Interpreted - JS, Python, Lua, PHP
 - Compiled - Java, C#, Go, Ruby
 - Low level - C/C++, Rust, Assembly
- Linux
 - Distros - Ubuntu (good for starting point), Arch, Kali (hacking), Nix, Redhat, OpenSUSE...
 - Terminal - Bash, Zsh, Fish, Warp
 - Tools - NeoVim, Nano, Tmux
 - Commands - ssh, jq, xargs, awk, grep, nc, ifconfig
- Tools
 - Editor - VS Code, Visual Studio, IntelliJ, Webstorm, Android Studio (Android), Xcode (Apple), Nvim/vim, Nano, Notepad
 - Visual - Figma, Lucid charts, dbdiagram
 - Dev tools - Browser dev tools (each browser has one)

Resources

- Answers - Stackoverflow, documentation, ChatGPT
- Books
- Online - ByteByteGo, Fireship, Primaegen, WebDevSimplified, NetworkChuck
- Other - svg repo, svgator, codewars, HTB, sketchfab, chrome://inspect/#devices, app.haikei.app