Principles of Coding and Development

Tips for Clean Code and Front End vs. Back End

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Principles of Coding

1. Keep It Simple, Stupid (KISS)

Because why make more complex code when it can be simplified?

This would also make the code easier to debug later on.

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2. Don't Repeat Yourself (DRY)

Instead of repeating lines of code that have the same purpose, create a single loop or function instead.

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3. Open/Closed

Code in such a way that it does not need to be modified (closed) but can be extended (open) during the next stages of the development process.

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4. Document Your Code

This is especially important for SoftDev! Comment on your code to label what each part does, making it easier to debug later on.

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5. Have Clean Code

Divide your code into lines! This makes it cleaner and easier to read.

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6. Refactor

Restructure code while keeping the same purpose.

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7. You Aren't Going to Need It (YAGNI)

Only tackle the necessary solutions needed in your code; don't create unnecessary lines of code on the idea that you may need it in the future!

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8. Single Responsibility

Give each module/class/function only one purpose to make it easier to debug and to keep your code clean.

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9. Separation of Concerns

Code parts of the program with different parts.

An example of this is the model-view-controller (MVC) model, which refers to the data, display, and logic respectively. Do not input code meant for one part in another.

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10. Composition Over Inheritance

Classes with complex behaviors should have instances of objects with individual behaviors, yet shares the same trait as the main class.

For example, a lion is a type of cat and shares all traits of a cat, but has its own individual traits.

Exercise

What's wrong with this snippet of code?

Front-End vs. Back End

Front-end

This is what the client sees! All the visual elements of the interface are part of this.

Back-end

This is the internal data and infrastructure of your software. This includes the application, server, and database.

Languages Used

Front-end

- HTML
- CSS
- JavaScript

Languages Used

Back-end

- Python

- Java

- PHP

Exercise

Identify the front-end and back-end elements of KHub!