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SOLID PRINCIPLES

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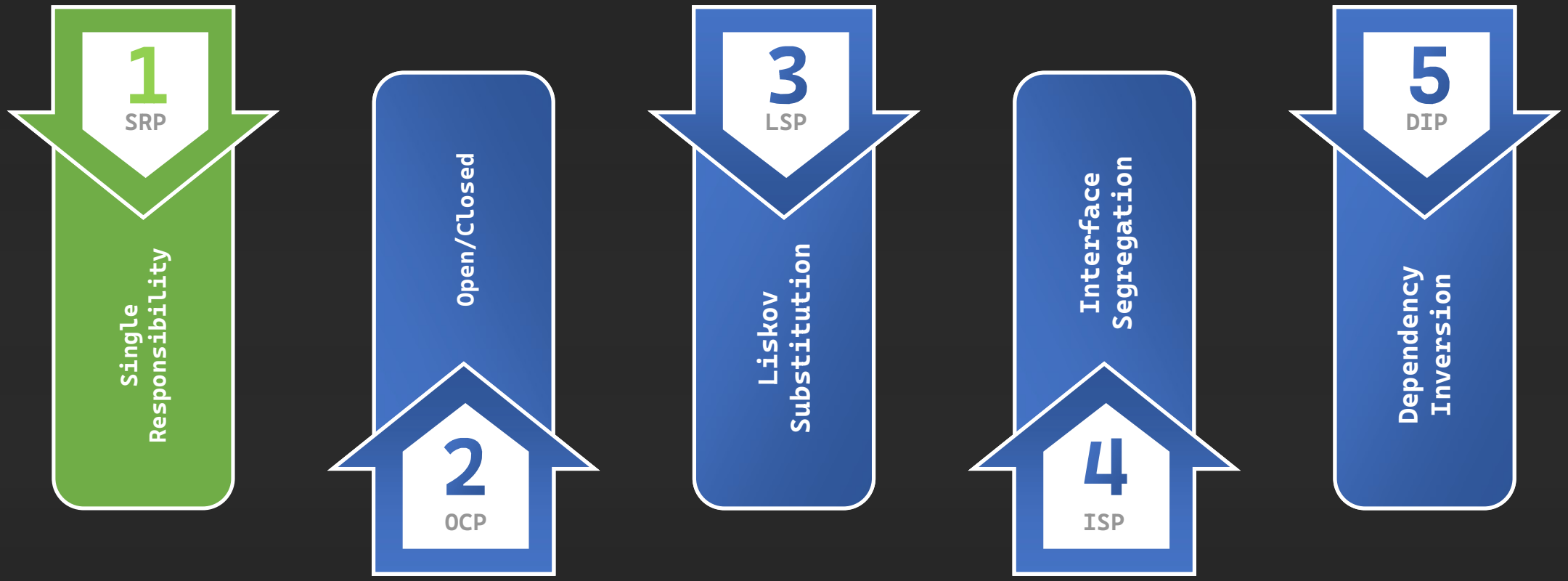
# Single Responsibility Principle (SRP)

# 5 Solid Principles

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# SOLID PRINCIPLES

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## Analogies

# Analogy 1:

Cleaner

Cook  Waiter

Cashier

This person would be overwhelmed and unable to focus on any task properly.





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# Now Imagine:

Cook

Waiter

Cleaner

Cashier

This way, each worker focuses on their responsibility and does it well.





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# Single Responsibility Principle (SRP)

Similarly, in code, each class should focus on one responsibility to avoid becoming overwhelmed and difficult to manage.



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# Analogy 2:

Groceries

Clothes

Electronics

Others

It may be convenient, but you wouldn’t expect it to specialize in any one product!





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# Now Imagine:

Bakery

Compare that to a specialized store, such as a bakery that only sells pastries. The bakery is much better at doing one thing, making bread and cakes, because that’s its sole focus.





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# Single Responsibility Principle (SRP)

In software design, following SRP means breaking down your classes into specialized components, so each class excels at its particular task.



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# Analogy 3:

Think of a Swiss Army knife, it has many tools, but none of them are particularly great at what they do. You could use it to cut, screw, or open bottles, but it won’t perform any task as well as a dedicated tool.





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# Now Imagine:




Each tool will perform better alone!



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# Single Responsibility Principle (SRP)

- The SRP is like having a set of specialized tools, each one is designed for a specific job. This makes the tools easier to maintain, sharpen, or replace individually without affecting the others.

- In code, when a class has multiple responsibilities, any change to one function can break another. By following SRP, you ensure each class does only one thing, just like having one tool for one job.





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# What is SRP?

- A class should have only one reason to change, meaning it should have only one job or responsibility.
- This principle helps to ensure that each class or module in your system does one thing and does it well.
- If a class has more than one responsibility, changes to one responsibility may affect the others, making the class more difficult to maintain.





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