**CheatSheet assignment 2**

***What is compostion?***

Composition is when a class contains an instance of another class inside of it.

Instead of inheriting from another class, we combine objects to build more complex ones.

Composition allows objects to be built using other objects as components, promoting modular and reusable code.

***Why do we use composition?***

* **Encapsulation**: Keeps components separate and maintains better control over object behavior.
* **Reusability**: Encourage code reuse by combining smaller, independent objects into more complex structures.
* **Flexibility**: Unlike inheritance, composition allows for more dynamic relationships between objects at runtime.
* **Avoid Inheritance Issues**: Prevents deep class hierarchies, making code easier to manage and test.

***How Do We Use Composition in Our Code?***

We use composition by creating objects inside other objects. Instead of inheriting from a class, we make a class that contains instances of other classes. This helps us build complex objects by combining smaller, reusable parts.

To use composition, we:

1. Define separate classes for different functionalities.

2. Create an instance of one class inside another class.

3. Use that instance to perform specific tasks.

This keeps our code organized, reusable, ***and flexible, making it easier to modify or extend later.***