Lab 3.1 - Software Design Patterns - Research

# Goal

In a pair, research one of the standard design patterns.

Prepare a short presentation on it, ideally including diagrams and/or code samples. Re-use resources you find online where this makes sense.

When we are back together as a whole group, each pair will present their findings in turn.  
Please investigate the pros and cons of a pattern and its UML Class diagram with the class.   
Is there a situation at work where you could use the chosen pattern?

Here are a few patterns you can choose from, but you may choose others:

1. Factory
2. Singleton
3. Builder
4. Adapter
5. Bridge
6. Composite
7. Decorator
8. Observer
9. Chain of responsibility

<https://refactoring.guru/design-patterns/catalog> is a good place to start your research.   
Please share other sources which you have found to be useful.