# Exercise TDT4240: Patterns

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## Step 4 - theory

#### $\mathbf{a}$

Design patterns: Template method, Observer, Abstract factory, State, Pipeline Architectural patterns: MVC

Architecture is the overall plan. The bigger picture. The patterns here describe high level goals and intentions.

Design is more specific. It is the small picture. The implementation specifics are decided in this phase.

### b

We chose the Observer pattern. The class that was changed is the Collision class, inside the PongScreen class. The ballSprite class works as the subject, while the collision class has the role of the observer.

#### $\mathbf{c}$

Yes, there are advantages of using the Observer pattern in this program.

The main advantage of this is that we have controll of all the collisions in one class. Another advantage is that the implementation is simpler because we don't have to manyally check overlaping points in sprites.

### Selfevaluation

For the total time of this exercise we used approximately three hours.