# Theoretical part

# Structural patterns – Decorator, Adapter, Bridge

# Final Assignment

* **Task 1. Prototype Pattern** – Console Application (Application prototype, pattern illustration). There is a collection of objects describing cleaning products (name, formula, manufacturer, price). Implement the cloning of a given object from a vector, and clone the entire vector.
* **Task 2. State Pattern** – Console Application. Define the logic of state changes. A student's homework can be in the following states: issued, completed, submitted for review, reviewed, passed (grade not less than 7), failed (grade less than 7), re-submitted for review.
* **Task 3. Decorator Pattern** – Console Application (Application prototype, pattern illustration). There is a pizzeria that prepares various types of pizzas with different toppings. There are Italian, Bulgarian pizzas, and seafood pizzas. They can have tomatoes, cheese, anchovies, etc. added to them. Depending on the type of pizza and the combination of toppings, the pizza may have a different price.