Hello everybody!

Now, we are going to understand the goal of this semester coursework.

The primary goal is to understand the underlying principles of object-oriented programming: Encapsulation, Inheritance, Polymorphism, and use them in our coursework.

The next goal is to understand what is the SOLID mnemonic acronym means (SRC, OCP, LSP, ISP, DIP) and try to use all those principles in your coursework.

One of the final goals is to try to learn all the GoF Patterns of Object-Oriented design. It would be better if you can understand all of them and use at least 3-5 of them in your coursework.

The main idea is I give you the topic (realm, initially thinking direction).

You have to implement the chosen subject area in your program code. You can freely select the programming language for your coursework. But Java would be preferable.

Of course, you don't need to implement all the layers of the application. You have to write only classes are responsible for handling the subject area. Most of all complex behaviors can be easily simplified by printing some text in the console.

The main idea is to understand how you can write less code and raise the maintainability of your program.

How to add and modify the object's behavior without the poorly "copy/paste" action which leads your system to an utterly unmaintainable condition.

So, I give you four directions:

1. Flora/fauna (types, subtypes, breeds, and their behavior).

2. Auto/moto (types, subtypes, and their functions).

3. Education structure (students, teachers, courses, assessments, learning process).

4. Graphics application. You have to reproduce at least ten figures and define their behavior. You shouldn't use any libraries for a drawing! I only want you to write the code responsible for the structure and functioning of implemented objects (hide, show, move, turn, store, load, group, etc.).

I intentionally divided you into four different groups by given various topics. Of course, you can choose any other subject which is more correlated or more cohesive with your primary job and(or) your area of interest, but you can't change themes between yourselves.

You can create groups and bring a group decision, but in this case, each contributor should understand and be ready to present his/her role in a project. In this case, I expect a significantly more quality decision.