# Lab: SOLID

This document defines the exercises for the ["Python OOP" course at @Software University.](https://softuni.bg/trainings/4371/python-oop-february-2024)

## Books

**Refactor** the provided code, so there is a separate class called **Library**, which contains **books** and has a method called **find\_book(title)** that returns the book with the given **title**. **Remove** the **unnecessary** code from the **Book** class.

## Animals

**Refactor** the provided code, so you **do not** need to make **any changes** to it when you want to **add** new species to the animals' list

## Ducks

**Refactor** the provided code so it is in line with the **Liskov Substitution Principle**.

## Entertainment System

We have been hired to create a game where the player sets up **entertainment systems**. Each piece of the system (television, game console, etc.) uses a specific **cable** to **connect** to another device. The **TV** uses an **HDMI** cable to connect to a game console. Both the **game console** and **TV connect** to a router via an **ethernet cable** to access the internet. And lastly, all the devices are connected to the wall via a **power cable** so they can turn on. Your job is to **extend** this behavior in the device classes.

## Print Books

We want to **print books**, but before printing the book, we should **format it**. To accomplish this, we have a class **Printer** that can print books and a **class Formatter** which is used by the Printer. **Refactor** the provided code that breaks the DIP because both the Printer and Formatter **depend on concretions**, not abstractions, by **creating** abstractions and injecting them wherever needed.