

## SOLID quiz explanations

1. Even though we have learnt in school that every square is (a special kind of) rectangle, this doesn't mean that we can use the square everywhere we can use the rectangle. A trivial example is, that we cannot use a square to fill space where width and height are different.
2. We have seen in the last question that we should not model the square class to be subclass of rectangle. It might be tempting to just reverse the inheritance relationship, but this is also violating the Liskov substitution principle: An invariant of the superclass square is that width and height always have the same value. This invariant however would not be preserved in the subclass rectangle.
3. Loading a file should be separated from checking the fingerprint. One situation under which we will see why this is not ideal is, when we want to have full (unit) test coverage for this class. We then must write data to the filesystem in our unit test. Without violating the SRP it would be enough to just pass hardcoded test data to our class.