**Encapsulation (“black box”)** means hiding the details of an object (e.g. code, data, an instance of a class) from the other parts of a program. The object can be used only through a designated access designed as a protective barrier. This secures the object from random outside access that may corrupt it. For example, when you buy a bottle of Coca-Cola, you have the option of drinking it as is, adding some Rum to create a Cuba Libre, or using it for the famous Chicken in Cola recipe (yakkk!). But, you can’t get the exact Coca-Cola recipe and tweak the ingredients ratio to make it sweeter. And now for the biological context: Think of brewing a beer. You add yeast (e.g. Saccaromyces cerevisiae) that uses an enzyme to convert the sugars into alcohol, so you can control the amount of yeast and sugar you add, or change the length of time you allow it to ferment, but you can't change the enzyme in the organism to make start producing ice cream instead of alcohol (although it would be nice...).