Assignment 3

Difference between encapsulation and abstraction.

Encapsulation and abstraction, these two features are in the concept of Object Oriented Programming or OOP. Encapsulation is binding the data members with member variables. This will avoid the direct access of variables, because direct access of variables may violate privacy, and hiding the implementation will not be possible. Encapsulation’s primary role is to protect some part of the code. The data can only be accessed via the method/member function. For example, we create the set and get methods as public and variables as private. So, the variables can be accessed only through the public methods outside the class since private objects are not accessible outside the class but are accessible inside the class. Therefore, encapsulation is the concept of binding and protecting data with methods.

Abstraction is a process of hiding unnecessary data and showing only essential data to the users. This concept is focused on reducing complexity and increasing efficiency. For instance, how the coffee machine works? The only thing that you need to know in order to be able to use a coffee machine is that you just put water and coffee inside, then you press the button, and this we called abstraction. Abstraction solves the problem and issues that arise at the design stage. Thus, Abstraction is the process of using access specifiers like public, protected, and private to simply hide the data and display only the necessary data.

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