**Identify a real-life project scenario and list how you would implement each OOD concept while creating the software solution.**

* Let us take Bank System as the real-life project scenario. We’ll see how we will implement each OOD concept in this.

1. Encapsulation

* We have private data in Account class that cannot be seen by anyone. eg. PIN number. We will use encapsulation here. By encapsulating this data as private variable, outside code would not have direct access to it.

1. Abstraction

* When implementing banking application, the user sees all the controls in the interface, he can perform all the operations. But the user doesn’t know about the internal complex process. This is how we implement abstraction. All the inside process is hidden from the user and he only sees what is required.

1. Inheritance

* Inheritance is used for reusability. There is account class in the bank system. And there are 2 types of accounts, saving account and current account. Both the types of accounts have different functionality but they both should share the account class properties. So we make saving and current classes subclasses of account class. This is how we implement inheritance in bank system.

1. Polymorphism

* In banking system different banks have different rate of interests. There is one single class bank with method calculateROI(). All its subclasses that are other banks can override this method and assign their own rate of interest. this is how we implement polymorphism in banking system.