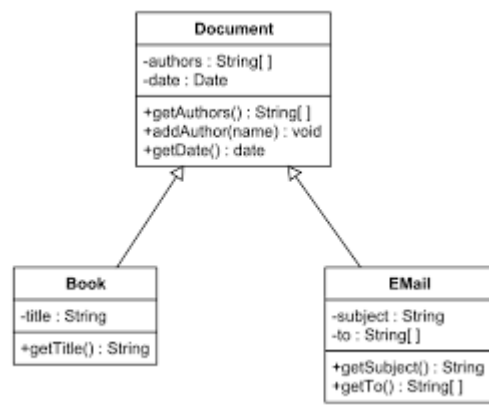1. Inheritance is a mechanism that can derive a new class from an existing class.

In this UML diagram, there are 3 classes in total. Document, book, and email. The superclass in this diagram is Document and the subclasses are Book and Email.

2. **This vehicle is moving**
   This vehicle is stopped
   4
   2

3. **This is vehicle constructor**
   This vehicle is moving
   This is the second constructor and it has the name of the vehicle
   The bicycle name is : BMX
   This vehicle is stopped
   4
   2

   The super keyword from bicycle and car subclasses invoked the constructors in Vehicle superclass. The constructors and the super keyword are missing in the first coding. And that is why we can notice the difference in the output of these two codings.

4. **This is vehicle constructor**
   This vehicle is moving
   This is the second constructor and it has the name of the vehicle
   The bicycle name is : BMX
   This vehicle is moving very slow
   This vehicle is stopped
   4
   2

   bicycle.go() is not the same with car.go(). bicycle.go() overrides car.go() . this is because bicycle is a subclass.