

Advanced Object-Oriented Programming

Exercises

1. Add a second withdraw method to the BankAccount class in Encapsulation02 which is called when the user takes money out of a cash machine (ATM). Write your new withdraw method so that taking money from an ATM incurs an *additional* fee over the standard fee for withdrawal.
2. Add a deposit method to the BankAccount class in Encapsulation02 which is called when the user deposits money into the bank account. Write your deposit method so that it uses a setter method for accessing the balance variable and thus preserves encapsulation.
3. Modify the Point class in the GettersAndSetters sketch so that the interface remains the same but so that the point is stored using Cartesian co-ordinates rather than polar co-ordinates.
4. Add a new subclass of Shape to the Shapes sketch. Instantiate the new class in the setup function. Jiggle and display the new shape in the draw function.
5. Take the new shape class that you defined in the previous question and reuse it in the Polymorphism sketch.
6. Modify the MethodOverloading sketch by adding a new jiggle method to the Shape class which randomly “jiggles” the size of a shape as well as its colour and position.