Here are some exercises to practice working with classes, specifically, instance members, toString, constructors, access modifiers and final modifiers.

**Classes 1**

class Car {
    String carModel;
    String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        c.carModel = "Focus";
        System.out.println(c.carMake + " " + c.carModel);
    }
}

**Classes 2**

class Car {
    String carModel;
    String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        c.carModel = "Focus";
        System.out.println(c.carMake + " " + c.carModel);
    }
}
class Car {
    String carModel;
    String carMake;

    public void Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c.carMake + " " + c.carModel);
    }
}

Classes 4

class Car {
    private String carModel;
    private String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c.carMake + " " + c.carModel);
    }
}

Classes 5

class Car {
    private String carModel;
    private String carMake;
public Car(String make, String model) {
    carModel = model;
    carMake = make;
}

public static void main(String[] args) {
    Car c = new Car("Ford", "Fiesta");
    System.out.println(c.carMake + " " + c.carModel);
}

Classes 6

class Car {
    private String carModel;
    private String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c);
    }
}

Classes 7

class Car {
    private String carModel;
    private String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c);
Classes 8

class Car {
    private String carModel;
    private String carMake;

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

Classes 9

class Car {
    private String carModel = "Fiesta";
    private String carMake = "Ford";

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

Classes 10

class Car {
    private String carModel;
    private String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }
}
class Car {
    private String carModel = "Polo";
    private String carMake = "VW";

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

Classes 11

class Car {
    private String carModel = "Polo";
    private String carMake = "VW";

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c);
    }
}

Classes 12

class Car {
    private String carModel;
    private String carMake;

    public Car() { }

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}
class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

class Car {
    private String carModel;
    private String carMake;

    public Car() {
        this("Toyota", "Corolla");
    }

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

Classes 13

class Car {
    private String carModel;
    private String carMake;

    public Car() {
        this("Toyota", "Corolla");
    }

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car();
        System.out.println(c);
    }
}

Classes 14

class Car {
    private final String carModel = "Polo";
    private final String carMake = "VW";

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}
```java
class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        System.out.println(c);
    }
}

class Car {
    public final String carModel;
    public final String carMake;

    public Car(String make, String model) {
        carModel = model;
        carMake = make;
    }

    public String toString() {
        return carMake + " " + carModel;
    }
}

class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford", "Fiesta");
        c.carModel = "Focus";
        System.out.println(c);
    }
}

Classes 15

```
class Main {
    public static void main(String[] args) {
        Car c = new Car("Ford_Fiesta");
        System.out.println(c);
    }
}

Solutions

1. compiles and prints "Ford Focus" because the member value is changed in main
2. does not compile because constructor is lower case
3. does not compile because constructor has return type and is considered to be a method, hence only the default constructor is available which expects no arguments
4. does not compile because the members for make and model are not visible in Main
5. compiles and prints Ford Fiesta because the main function is within the scope of the class, hence the private members are visible
6. compiles and prints something like "Car@15db9742" because default toString() is used
7. prints Ford Fiesta using the custom toString method
8. prints null null because default constructor is used and default initialisation of object member variables is null
9. prints Ford Fiesta because instance variables are initialised before constructor call
10. does not compile because default constructor is not available if another constructor has been specified
11. prints Ford Fiesta because initial instance member values are replaced by constructor arguments during creation
12. prints null null because no argument constructor is used and default instance member values (see 8.)
13. prints Toyota Corolla because no argument constructor calls two argument constructor with default values
14. does not compile because final instance members cannot be assigned twice
15. does not compile because final instance member cannot be assigned twice
16. does not compile because final instance members have to be initialised directly or in the constructor