Exercises

Remember… the code for each exercise below should be in its own subfolder under `Mod03`.

EXERCISE 1

Create a Java application named `TestStatistics` that has an array of 10 test scores. Print out the following statistics on your test scores:

- average
- high score
- low score

BONUS: Calculate and display the mean value.

EXERCISE 2

Create a Java application called `VehicleInventory`. It is used to manage the inventory for a used car dealership. Users will use a menu to lookup vehicles or add vehicles to the list.

Create a class named `Vehicle`. Add the following data members to it:

```
vehicleId - a long (ex: 101121)
makeModel - a string (ex: Ford Explorer)
color - a string (ex: Red)
odometerReading - an int (ex: 32775)
price - a float (ex: 12250.00)  (no Lamborghinis here!)
```

Add a constructor and get/set methods for each property of the car.

Back in `main()`, create an array capable of holding up to 20 vehicles and a counter variable that tells you how many vehicles are in the array right now.

Preload that array with 6 vehicles.

Create a loop and prompt the user for a command within the loop. The code the user sees should be:

Exercises *cont'd*

```
What do you want to do?
   1 - Find vehicles that match make/mode
   2 - Find vehicles that fall within a price range
   3 - Find vehicles that match a color
   4 - List all vehicles
   5 - Add a vehicle
   6 - Quit
Enter your command:
```

You may not get all options in the command list done. If not, focus on options 4, 2 and 5 first.

Use methods wisely. It seems like your loop could match a command to a number and then call a method to do the processing. For example:

```
System.out.println("What do you want to do?");
System.out.println("  1 - Find vehicles that match make/mode");
System.out.println(
   "  2 - Find vehicles that fall within a price range");
System.out.println("  3 - Find vehicles that match a color");
System.out.println("  4 - List all vehicles");
System.out.println("  5 - Add a vehicle");
System.out.println("  6 - Quit");
System.out.println("Enter your command: ");

int command = scanner.nextInt();

switch(command) {
   case 2:
      findVehiclesByPrice();
      break;
   case 4:
      listAllVehicles();
      break;
   case 5:
      addAVehicle();
      break;
   case 6:
      return;
}
```

Self-Check

- **You can check your understanding of Java thus far at:**
  - https://www.w3schools.com/java/java_exercises.asp
  - https://www.w3schools.com/java/java_quiz.asp
- **Clearly we haven't completed our study of Java yet, but you may be surprised at how many you get correct!**