This assignment can only be submitted once. So make sure that you are finished before submitting.

Look at the following three tasks:

1. Ask the user for 3 decimal numbers and return the average of those numbers. You need a variable of type double for each of the three numbers and one for the average. Use the System.out.printf() statement and restrict average to 3 decimal places. Page 104 in your book shows the format specifier.

2. Ask the user for a String and check if it is a palindrome. (A palindrome reads the same forwards and backwards.) Use nextLine() method of the Scanner object to read the line. Use charAt() method of the String class after replacing any spaces in the string by ".". If you need any help look up chapter 2 in your book or Java 8 API String class documentation. Return a boolean value.

3. You have three identical prizes to give away and a pool of ten finalists. The finalists are assigned numbers from 1 to 10. Write a program to randomly select the numbers of three finalists to receive a prize. Make sure not to pick the same number twice. For example, picking finalist number 3 is valid but picking 3, 3, 11 would be invalid because the finalist number 3 is listed twice and 11 is not a valid finalist number. Use the Random class to generate a random number between 1 to 10, where 1 and 10 are inclusive. Create an array of capacity 3 to hold the three numbers and return the array.

Create three different methods. Each method should perform one of the above tasks. Then create a main method which will directly call the above mentioned three methods. Print the results in the main method. Submit all four methods in one class.