ArrayLists Exercises

For this exercise, you will modify the Array Exercise Level 1, that you completed using an array data structure. For this task, complete it using an ArrayList. The PowerPoint that was used to present the lesson is saved in this folder for your reference.

Create a menu driven mainline that will run any procedure described below.
Save as ***ArrayListExercises.java***

1. Declare an ArrayList to store integers.

2. Add a procedure method called ***enterFromKeyboard*** which will enter UP TO 10 integers and store them in the array (it could be less, so an ArrayList is suitable).

3. Change the main method, so that it will call the first procedure method (*enterFromKeyboard*) then display the menu.

4. Add a procedure method called ***countWhole*** which will calculate and display the number of whole numbers entered into the array. (Positive integer values)

5. Add a procedure method called ***display*** which will display the list of inputted integers in the order entered. e.g. The integers in order entered is 8 12 32 43 14 12.

6. Add a procedure called ***displayReverse*** which will display the list of inputted integers in reverse order entered. e.g. The integers in reverse order is 12 14 43 32 12 8.

7. Add a procedure method called ***sum*** that will calculate and display the sum of all the numbers entered.

8. Add a procedure method called ***average*** that will calculate and display the average of all the numbers entered correct to 1 decimal place.

9. Add 2 procedure methods called ***findMax*** and ***findMin*** which will calculate and display the maximum number and the minimum number stored in the ArrayList respectively.

10. Add a procedure called ***search*** that will display the position(s) in the ArrayList a specific number occupies. e.g. The number 12 is found in the following positions: 2, 5

11. Add a loop so that the user can make other choices from the menu for the numbers that the user entered.

12. Add a method called ***bubbleSort (ArrayList list),*** that would sort the entered numbers in ascending order using the bubble sort method that was taught in class.