

## Java Programming

### 1-2: Working with Pre-Written Code

#### Practice Activities

##### **Lesson Objectives:**

- Read and understand a pre-written java program consisting of classes and interacting objects
- Apply the concept of inheritance in the solutions of problems
- Test classes in isolation
- Describe when it is more appropriate to use an ArrayList than an Array

##### **Vocabulary:**

Identify the vocabulary word for each definition below.

Mutator Method	A method that can modify an object.
Accessor Method	A method that can access the contents of an object but does not modify that object.
Dynamic Array	Object that can store multiple object types and can grow and shrink dynamically as required.
Inheritance	The process where one object acquires the properties of another.
Code Quality Analysis	Allows you to check the quality of the code for a class independent of the rest of the program code.

##### **Try It/Solve It:**

1. If you did not install the JavaBank Case Study during the lesson then please follow the slides from Page 6 to do so now.
2. Examine the code in JavaBankList to see how to declare and use the ArrayList Accounts.

```
// ArrayList to store Account details  
ArrayList<Account> Accounts = new ArrayList<Account>();  
  
replaces  
  
// Array to store Account details  
static Account myAccounts[] = new Account[MaxAccounts];
```

3. Examine the code in JavaBankList to see how the code for creating an account has changed by using an ArrayList.

```
//add a new account to the list using the Account constuctor
Accounts.add(new Account(Name,Accountnum,Balance));

//Set a temp Account for display purposes
Account tempAccount = (Account)Accounts.get(noAccounts);

//Display tempAccount
displayJTextArea.setText(tempAccount.getaccountname() + " " +
tempAccount.getaccountnum() + " " + tempAccount.getbalance());
```

4. Examine the code in JavaBankArrayList to see how the code for making a deposit or withdrawal is used.

5. Explore JavaBank. Record your observations.

What happens when you:

- Display Accounts
- Create Accounts
- Delete Accounts
- Make a Withdrawal Transaction
- Make a Deposit Transaction
- Can you display accounts before any are created?
- Can you create an account without entering anything in the fields?
- Can you make a withdrawal transaction with no amount in the Withdrawal field?
- Can you do a deposit transaction with no amount in the Deposit field?
- What other questions do you have about the JavaBank application?
- What changes would you make to the current application to make it function better?
- What additions would you make to the current application to increase its functionality?