Parameters and Overloaded Methods"  Please respond to the following:

* Imagine that you are creating a program for calculating an average of either two (2) or three (3) numbers. Determine the manner in which the overloaded methods can be used to solve this. Include one (1) example of a scenario or situation to support your response.
* Discuss the purpose of having a constructor with a parameter. Compare and contrast the functionality between a constructor with a parameter and a constructor without a parameter. Provide one (1) example of each constructor in question to support your answer.

Function overloading is the ability to create multiple methods of the same name with different implementations. Calls to an overloaded function will run a specific implementation of that function appropriate to the context of the call, allowing one function call to perform different tasks depending on context.

A good example, is using this function calculateAverage(object O). It is an overloaded method which can be called. An object can be passed as a parameter to this function which will make it run.

The purpose of having a constructor with a parameter is to initialize the object's data members and of establishing the invariant of the class, failing if the invariant is invalid. The function without the parameter will run with the default.

Exercise App"  Please respond to the following:

* When a programmer designs a program, there are cases where loops need to be nested. While there are no limits to the depth of nested loops, it is possible for the programmer to nest the loops too deep. Suggest the deepest level (e.g., 2, 3, 4, 5, etc.) for programmers to nest the loop. Provide a rationale to support your response.
* Image that two programmers were arguing about the use of the *for…loop* and the *do…while()* loop. One programmer stated that in a Java program, a *for…loop* can be replaced with a *do…while()* loop in any program without the loss of functionality and efficiency of the program. The other programmer disagreed. Take your position on this argument and provide one (1) example to support your position.

A nested loop is a loop within a loop, an inner loop within the body of an outer one. Looking at the definition, I think there is no limit to how deep the loop goes. It deep on the programmers ‘s goal, what software they are trying to build and how fast the software responds to the event. If you are building a very complicated software which need a lot of changes like gambling machine, you can go above three.

I think a for loop is better than a do while loop because a do while loop will be executed at least once in a program but a for loop will check the condition first and then it could or not get executed depending on the condition of the program. In a for loop the condition is at the begin of the loop block, and makes possible to never enter the loop. The above-mentioned point makes a for loop much better in a java and other programming languages.

Organizing a Data Collection with Arrays"  Please respond to the following:

* Describe two (2) scenario not mentioned within the textbook in which the use of an array would be a plausible solution. Support your response with an example of the described use of the array.
* Describe two (2) scenario not mentioned within the textbook in which the use of parallel arrays would be a plausible solution. Support your response with an example of the described use of the parallel arrays.

Two of the examples are the storing of records together in memory of a computer each one might declare an array of 100 names and 100 ages associate with those names. Then, you can easily find out where in the array each record is. And the other one is the data structure consist of a collection of elements which can be used to compare it with what we have on hand e.g. what goods are in the inventory.

A good example of a solution a parallel array can solve is representing multiply and dividing using rows and columns. Examples can be using rows to represent the number of groups and Columns to represent the number in each group. This can be multiplied to solve different matrix math’s problems.

The other example is of recording transaction in a store database when you are update what was sold which is deducted in the inventory total and the money which is going to be recorded for the good sold which is going to be added on to the sales accounts.

"Traveling App"  Please respond to the following:

* Suppose that you are creating an app to keep track of the places that you have visited while traveling. Determine whether or not you would use a two-dimensional or other multidimensional array (choosing to use an array) for the task at hand. Provide two (2) examples of the data that might be stored in the array to support your response.
* Consider the array and the arrayList data structures. Provide one (1) example of a scenario in which an array would be the preferred data structure and one (1) example of a scenario in which the arrayList would be the preferred data structure. Justify your response.

The type of array I would choose for my traveling app would be a two-demission array type. I used time and the places I visited. Those are the most important information which will be necessary for the app. The two-data type will be int to hold the date and string to hold the places visited.

An array data structure is a data structure which is consisting of a collection of elements, each identified by at least one array index while The ArrayList class extends Abstract List and implements the List interface. Arrays are of fixed length which can be a good for designing an application for the number of student in a class. It can be a good example for allowing a class not to add more students because you cannot change the size of the arrays once they are created. The ArrayList on the other hand can be preferable because it can be re-sizable. It is not fixed which make it good for building applications which Size of the arraylist can grow and shrink dynamically.

"Inheritance and Polymorphism"  Please respond to the following:

* Based on this week’s readings and videos, suppose that you are creating an enterprise application for storing the inventory for an automotive parts store. Describe one (1) way in which you would use inheritance in designing the application in question. Provide a rationale for your response.
* Based on this week’s readings and videos and using the same scenario in Part I of this discussion, provide one (1) example of a scenario or situation in which you would use polymorphism in designing the application in question. Justify your response.

Inheritance is a mechanism wherein a new class is derived from an existing class while Polymorphism is the ability of an object to take on many forms.

The example in this is the body class which has attributes which can be subclasses into the body of trucks, Nissan and other body type. I would use the inheritance of the different body types of different cars and trucks to inherit all the characteristic of the parent body. This is a relationship is what Java Inheritance is all about. When you can verbally say that something is a something else, then you have a relationship between those two Objects, and therefore you have Inheritance.

An important example of polymorphism is how a parent class refers to a child class object. Therefore, the child will access anything using the parent methods and any object that satisfies more than one IS-A relationship is polymorphic in nature.

.