Assignment (4)

INF231 Programming Concepts

INF231 Week4 Declaring and Using Arrays

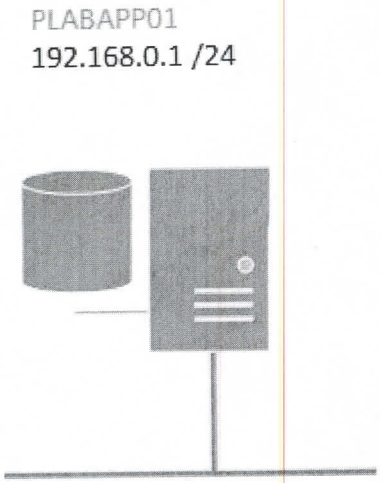
A - Introduction

The **Declaring and Using Arrays** module provides you with the instruction and server hardware to develop your hands on skills in the defined topics. This module includes the following exercises:

1) Using Arrays

Lab Diagram

During your session you will have access to the following lab configuration. Depending on the exercises you may or may not use all of the devices, but they are shown here in the layout to get an overall understanding of the topology of the lab.

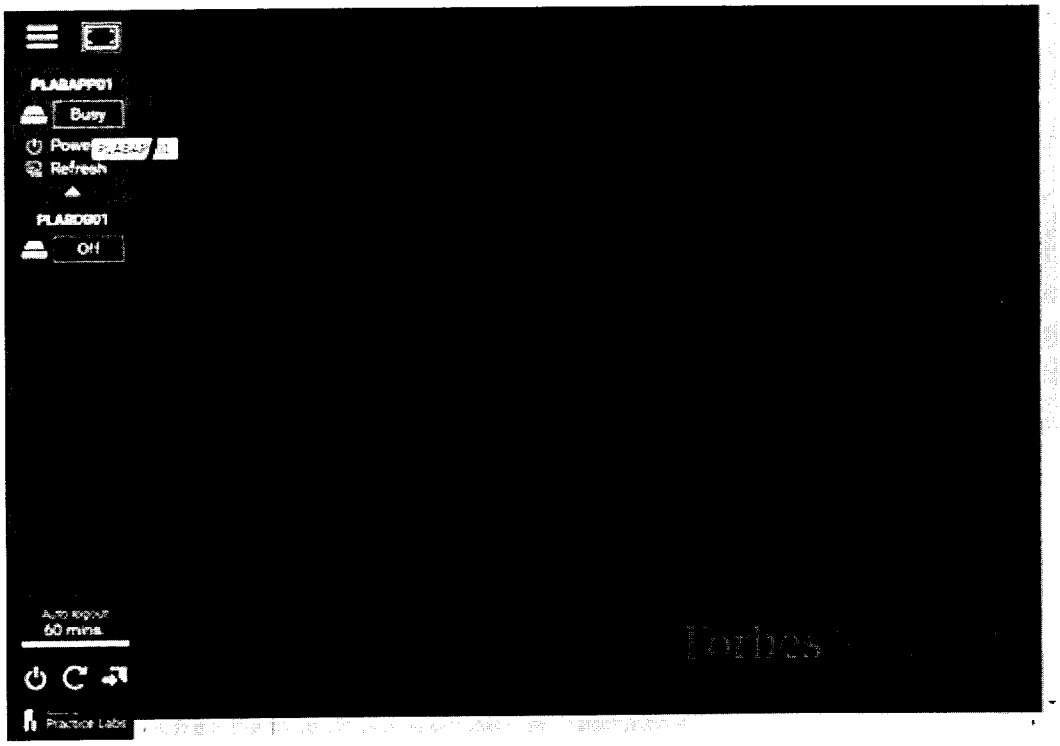


Connecting to your lab

In this module you will be working on the following equipment to carry out the steps defined in each exercise. You will need to power on the following server(s):

- **PLABAPP01**

The list of systems that you will need to execute this lab, will be displayed in the middle screen. Now Power-On the device PLABAPP01. If the Power On icon does not appear, hover over the name of the server and a series of available options will be displayed. In some cases the devices may power on automatically.



The system will power on (2 - 3 minutes wait) and the Windows interface will be displayed on the right of the screen. If the system powers on and the Windows Interface, does not appear, click on CONNECT (below the name of the server) in the middle pane.

It is highly recommended that you watch the short introduction to the Practice Lab to get acquainted with the practice lab environment before trying your first lab.

https://www.youtube.com/watch?v=vG7UwGcLQFQ&feature=youtu.be&hd=1

Click on NEXT (at the bottom of the page) to get to the next page

B - Arrays and Indexes

Before you attempt this section, review the concept of Arrays and Array Indexes. Double-Click on the IDE (Eclipse or Java Beans) on your desktop as directed by your Instructor. Once you launch your IDE, close the WELCOME page. You are now ready to follow the instructions below. Create a new Java project and called **PROGFOUR** and once you see the ***src*** folder, right click and create a new class.

We are going to use **PROGFOUR** to insert data into six arrays as outline below:

- Array Names = (Jon, Rajesh, Elizabeth, Julio and Chang)
- Array Averages = (70, 90, 74, 82 and 100)
- Array Grades = (C, A, C, B, A)

Note the following.

Names[0] = Jon, Names[1] = Rajesh, Names[2] = Elizabeth, Names[3] = Julio and Names[4] = Chang

If you print Names [0], Averages[0], and Grades[0], you will get Jon, Jon's average and Jon's grade.

Open Eclipse as you have done in the past and start coding. The code below has minor errors that you will have to fix on your own. The errors are intentional. Also, do not just copy this code, try to rewrite using classes and methods.

```
import java.util.Scanner; //will allow you to read from the
screen
public class GradesArray {
        public static void main (String[]args) {
                String[] nameArray = {"Jon", "Rajesh",
"Elizabeth", "Julio", "Chang"};
                String[] gradeArray = new String[5]
                double[] score1Array = {72, 60. 45, 70,
89};
```

```
                double[] score2Array = {50, 70, 60, 85.
90};
                double[] score3Array = {70, 80, 90, 100,
100};
                double[] averageArray = new double[5];
                for(int i=0; i<4; i++){ //why 4?
            averageArray[i] = (score1Array[i] +
score2Array[i] + score3Array[i])/3;
        if (averageArray[i] > 90.0){
                gradeArray[i] = "A";
        } else if (averageArray[i] > 80.0){
                gradeArray[i] = "B";
        } else if (averageArray[i] > 70.0){
                gradeArray[i] = "C";
        } else if (averageArray[i] > 60){
                gradeArray[i] = "D";
        } else{
                gradeArray[i] = "F";
        }
        System.out.println("Name is: " + nameArray[i] + "
Grade is: " + gradeArray[i] + " Average is: " +
nameArray[i]);
        }
}
}
//end main method
```

Now you are ready to run your code. Click on RUN from the menu bar. You may need to debug your code until you see 5 names, 5 averages and 5 grades.

Screenshot1 -Week4 Declaring and Using Arrays.

- Use print screen keys from your keyboard to capture a screenshot of your results.
- Paste the captured screen in a Word document

Save your created Word file **Using the filename: INF231 Week4 Declaring and Using Arrays.**

1. Launch Internet Explorer (IE) (Start (Internet Explorer))

2. On the right hand side of your screen, you will notice a BLUE BOX. Click on BROWSE

3. IE will open a Windows which will default to the DOCUMENTS folder

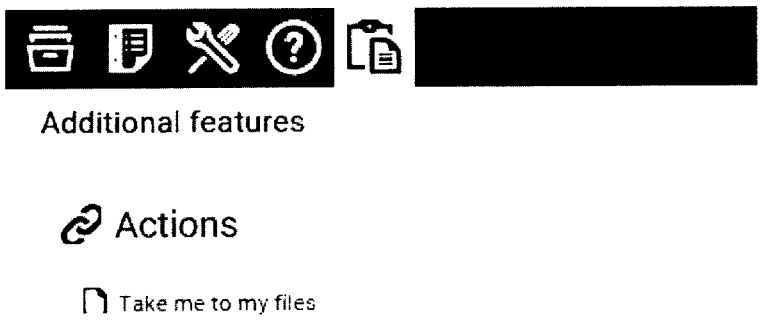
4. Find your file and double-click

5. The file will be loaded in an area that makes it available for download

6. Close the Tool and Resources Window

7. At the very top of your screen (in Practice Lab), look for the CLIPBOARD and click

8. Under Actions, click on Take me to my files



9. A list of files will be displayed and click on the file you want to download

The file will move from the Practice-Lab to your local computer and now you can save it to your local storage. **The next steps will be performed on your local computer.**

10. Under Actions, click on Take me to my files

11. A list of files will be displayed and click on the file you want to download

12. The file will be downloaded from the Practice-Lab to your local computer and now you can save it to your local storage.

13. Double-Click on the file you downloaded. It will open in Notepad. Select everything from the file and click on Copy.

14. Now return to your Word document and paste (your code will be pasted below your output screenshot

15. On the Menu bar, Select Save as

16. Use the name INF231 Week4 Declaring and Using Arrays.

17. Select PDF in from Save as File Type

18. Click on Save

Upload to Waypoint

This PDF file is now ready to be loaded to Waypoint for grading.

Shutdown all virtual machines used in this lab, by using the power functions located in the Tools bar before proceeding to the next module. Alternatively, you can log out of the lab platform.

C - Summary

In this lab, you learned the following topics in JAVA:

- Declaring and Using Arrays