Short Answer Questions:

1. One Dimensional array is when you can only show one time in a loop and then the loop never repeats its self. Two -Dimensional array is when you can add it in each section of the array and it also just runs inside that one loop.

A screenshot of a cell phone

Description automatically generated

1. If a class contains important data that needs to load inside of a program, It demonstrates to either class being in private or public or in constructor which basically means all the hard covered work goes outside of the program, whereas the other provide goes inside, this keeps it from running as a normal file.

A screenshot of a social media post

Description automatically generated

1. A screenshot of a social media post
   
   Description automatically generatedThe code shows that if you write one character’s name in once and another in later and you tell it to print out, it will print out both of the names at once. It also demonstrates the script to return the value of the person that is speaking back inside of a class.

It uses the array to demo what the output value of the script would be.

A screenshot of a cell phone

Description automatically generated

1. Private classes are only used to write personal information that the user can’t define and steal any of your information, the other thing the user cannot is edit the information as you set the classes as private. The user can only look and edit the public classes and variables inside of your class, they can also change up the format you present your classes as, lets someone is using public static void main (string, args…), for there script, the user that is editing the script can edit keep what you already wrote down or change it to just public class and just put everything into an integer.
2. /\* We cannot make outer class as private, if you have a private class on its own
3. \* as a top-level class, then you can't get access to it from anywhere.
4. \* Access modifiers like public and default are allowed
5. \* \*/
6. **public** **class** ClassExample {
8. **public** **static** **void** main(String[] args) throws ClassNotFoundException {
10. //instantiate the outer class
11. ClassExample classExample = **new** ClassExample();
13. //creating instance of member inner class using outer class object
14. ClassExample.InnerPrivateClass innerPrivateClass =
15. classExample.**new** InnerPrivateClass();

18. Class<?> myClass = Class.forName("com.test.prc.ClassExample");
20. Class<?> javaClass = Class.forName("java.lang.Thread");
22. // invoking inner class method in outer class
23. innerPrivateClass.displayMessage();
25. System.**out**.println("Qualified Name of the class" +myClass.getName());
27. /\*using getModifiers() method printing integer representation of
28. \* default access modifier of our class\*/
29. System.**out**.println("Integer representation of the default access modifier: "
30. + "Default - " +myClass.getModifiers());
32. //print integer representation of public access modifier of Thread class
33. System.**out**.println("Integer representation of public access modifier: "
34. + "Public - " +javaClass.getModifiers());
35. }
36. /\*
37. \* Inner class can be made private because the outer class can access inner
38. \* class where as it is not the case with if you make outer class private.
39. \*/
40. **private** **class** InnerPrivateClass{
42. // Member of inner class
43. **private** **void** displayMessage() {
44. System.**out**.println("We are inside inner private class");
45. }
46. }
47. }
48. This code shows how to find out all of the prime factors of any given number and if let’s say you enter any number it will tell you if it is unique or not. This code also determines where your imports are correct in use or the imports that you are using is are the correct ones, such as a import for a scanner you need in your program to display the printed inside of the program. The scanner demonstrates ways it cannot display the same number again and repeat it over again. Every time you display the code threw the system it should have a return value on it to demonstrate that your copying the number but it is displaying as a prime or compostive number.
49. *//This is sample program to find out all the prime factors of a given number*
50. **import** java.util.HashSet;
51. **import** java.util.Scanner;
52. **import** java.util.Set;
54. **public** **class** Unique\_Prime\_Factors
55. {
56. **static** Set primeFactors(**long** number)
57. {
58. **long** copy = number, i;
59. Set primeFactor = **new** HashSet<>();
60. **for** (i = 2; i <= copy; i++)
61. {
62. **if** (copy % i == 0)
63. {
64. primeFactor.add(i);
65. copy /= i;
66. i--;
67. }
68. }
69. **return** primeFactor;
70. }
72. **public** **static** **void** main(String args[])
73. {
74. Scanner input = **new** Scanner(System.in);
75. **long** n;
76. System.out.println("Enter the number: ");
77. n = input.nextLong();
78. System.out.println("The Prime Factors of " + n + " is: "
79. + primeFactors(n));
80. }
81. }

The output of this code would something similar to this.

$ javac Unique\_Prime\_Factors.java

$ java Unique\_Prime\_Factors

Enter the number:

35

The Prime Factors of 35 is: [5, 7]

Enter the number:

1225

The Prime Factors of 1225 is: [5, 7]

If your creating any button or a display for some type of program the code should would have the display set to (200, 600), it will show you that, this is the length and height of the display and what you need to create is inside of that display.

1. The code has to be in a method such as public static void main string, or you can just use public class as a method to write your code. A J-frame is a class that either uses SWT or javax.swing package. The package extends to java.awt.frame, it adds support for JFC/SWING component. What this basically does is it shows the top of the window, the border and a title bar. A JFrame class can also be used in many ways, such as customize it your display for your window. By using the jframe you can also identify what size you want the window to look like and of course lastly you can use a button method which is easier to read and understand.

import javax.swing.\*;

class gui{

public static void main(String args[]){

JFrame frame = new JFrame("My First GUI");

frame.setDefaultCloseOperation(JFrame.EXIT\_ON\_CLOSE);

frame.setSize(300,300);

JButton button1 = new JButton("Press");

frame.getContentPane().add(button1);

frame.setVisible(true);

}

}

A screenshot of a cell phone

Description automatically generated

The display screen would look something similar to this. Where you can apply a button and the button would either be shown on the side of the display screen or where ever you choose to display it.

1. The importance of designing reusable and partitioned code in computer programming is to help the reader understand some of variables, constants, classes and methods you need to create your program. In a program named java, it helps you understand clearly what how to use the interface the how to write something in your own script or use other’s scripts to analysis how they made the program work and how you need it work in a certain way. The code below shows how you can use other methods to make a cube show up on the display of the screen you decide to put on. So in many cases you make a integer value set to cube and the cube would set a value of 4 by 4, so what this means is you when you create your cube each side of the cube is going to be 4 by 4 and this is going to work for each integer value you set as, so let’s say sum x is 4 by 4, sum y is going to be the same as well because in a cube all side are the same as the program shows that the cube break down makes a square.

int[][] sum\_X = new int[4][4];

int[][] sum\_Y = new int[4][4];

int[][] sum\_Z = new int[4][4];

int[] sum\_Cube\_Diagnoal = new int[4];

1. A screenshot of a social media post
   
   Description automatically generatedThe program where we had to create a student info client in java and everyone’s part was broken down into parts, my part was to generate unique student ids and display as and UUID which is way to determine if the unique student id you came up with a random or it is from the system that analysis it and gave it as a number. A UUID can be display as 16 character or as 10 characters and a UID can be stated as a 6 digit code that give you the same student id code but helps you generate the student id code just by using a 4 digit code. This code also demonstrates using two imports such as scanner and server, they are most know for packages, these are used to make the program run and help the viewer understand if the system printout a random id, but it just repeats its self or just onetime check and everything is okay. My goal was to generate unique student ids and verify if they use a UID or UUID and check if it uses a constructor just for all the regular coded stuff not hard covered stuff.