JAVA Arrays and String Test

1. Write a program to copy the elements of one array into another array

a.
```
public class ArrayCopyWithoutMethods {
    public static void main(String[] args)
        int[] originalArray = {1, 2, 3, 4, 5}
        int[] newArray = new int[originalArray.length];
      for (int i = 0; i < originalArray.length; i++) {
            newArray[i] = originalArray[i];
        }
        System.out.println("Elements of the new array:");
        for (int i = 0; i < newArray.length; i++) {
            System.out.print(newArray[i] + " ");
        }
    }
}
```

2. Write a program to array elements print all Even number

`a.
```
public class PrintEvenNumbers {
    public static void main(String[] args) {
        int[] numbers = {10, 15, 20, 25, 30, 35, 40};
        System.out.println("Even numbers in the array:");
        for (int i = 0; i < numbers.length; i++) {

            if (numbers[i] % 2 == 0) {
                System.out.print(numbers[i] + " ");
            }
        }
    }
}
```

3. Write a program to array elements print all Odd number

a.
```
public class PrintOddNumbers {
    public static void main(String[] args) {

        int[] array = {10, 21, 32, 43, 54, 65, 76, 87, 98};


        System.out.println("Odd numbers in the array:");
        for (int i = 0; i < array.length; i++) {

            if (array[i] % 2 != 0) {
                System.out.print(array[i] + " ");
            }
        }
    }
}
```

4. Write a program to search an element in an array

```
aimport java.util.Scanner;

public class ArraySearch {
    public static void main(String[] args) {
        int[] array = {10, 20, 30, 40, 50, 60, 70, 80, 90};


        Scanner scanner = new Scanner(System.in);


        System.out.print("Enter the element to search: ");
        int searchElement = scanner.nextInt();
        boolean found = false;
        for (int i = 0; i < array.length; i++) {
            if (array[i] == searchElement) {
         System.out.println("Element " + searchElement + " found at index " + i);
                found = true;
                break;
            }
        }


        if (!found) {
```

```
  System.out.println("Element " + searchElement + " not found in the array.");
   }

      scanner.close();
   }
}
```

5. Write a program to array elements to print sum of Negative Numbers

a.
```
public class SumOfNegativeNumbers {
   public static void main(String[] args) {
    int[] array = {10, -5, 20, -15, 30, -25, 40, -35};
    int sum = 0;
      for (int i = 0; i < array.length; i++) {
        if (array[i] < 0)
            sum += array[i];
         }
     System.out.println("Sum of negative numbers: " + sum);
  }}
```

6. Write a program to Print Unique Elements in Array

a.
```
public class UniqueElements {
  public static void main(String[] args) {
     int[] array = {10, 20, 10, 30, 40, 50, 30, 60, 70, 50}
     System.out.println("Unique elements in the array:
     for (int i = 0; i < array.length; i++) {
        boolean isUnique = true;

        for (int j = 0; j < array.length; j++) {
           if (i != j && array[i] == array[j]) {
              isUnique = false;
              break;
           }
        }

        if (isUnique) {
           System.out.print(array[i] + " ");
        }
     }
  }
```

```
}
```

7. Write a program to array elements print all Positive number

a.
```
public class PrintPositiveElements {
  public static void main(String[] args) {

      int[] array = {-10, 25, -30, 45, -50, 60, -75, 80};

 System.out.println("Positive elements in the array:");
      for (int i = 0; i < array.length; i++) {

         if (array[i] > 0) {
            System.out.print(array[i] + " ");
         }
      }
   }
}
```

8. Write a program to calculate the average value of array elements

9. Write a program in to find the sum of all elements of the array
10. Write a program to merge two arrays elements to store third array
11. Write a program to get the canonical representation of the string object
12. Write a program to check whether a given string ends with the contents of another string
13. Write a program to check whether two String objects contain the same data

a.
```
public class StringComparison {
   public static void main(String[] args) {
      String str1 = "HelloWorld";
      String str2 = "HelloWorld";
      boolean areEqual = true;
      if (str1.length() != str2.length()) {
         areEqual = false;
      } else {

         for (int i = 0; i < str1.length(); i++) {
            if (str1.charAt(i) != str2.charAt(i)) {
               areEqual = false;
               break;
```

```
            }
        }
    }
     if (areEqual) {
        System.out.println("The two strings contain the same data.");
     } else {
        System.out.println("The two strings do not contain the same data.");
     }
  }
}
```

14. Write a program to count a number of Unicode code points in the specified text range of a String
15. Write a program to compare a given string to the specified character sequence
16. Write a program to concatenate Two strings
17. Write a program to Count Number of Uppercase and Lowercase letters

A.
```
public class LetterCaseCounter {

  public static void countLetterCases(String str) {
     int uppercaseCount = 0;
     int lowercaseCount = 0;
     for (int i = 0; i < str.length(); i++) {
        char ch = str.charAt(i);
        if (ch >= 'A' && ch <= 'Z') {
           uppercaseCount++;
        }
        else if (ch >= 'a' && ch <= 'z') {
           lowercaseCount++;
        }
     }
     System.out.println("Number of uppercase letters: " + uppercaseCount);
     System.out.println("Number of lowercase letters: " + lowercaseCount);
  }
  public static void main(String[] args) {
     String str = "Hello World! This is a Test String.";

     countLetterCases(str);
```

```
    }
}
```

18. Write a program to create a character array containing the contents of a string

A .

```
public class StringToCharArray {

    public static void main(String[] args) {
        String str = "Hello World";
        char[] charArray = new char[str.length()];
        for (int i = 0; i < str.length(); i++) {
            charArray[i] = str.charAt(i);
        System.out.println("Character Array:");
        for (char c : charArray) {
            System.out.print(c + " ");
        }
    }
}
```

19. Write a program to find maximum between two string

a.

```
public class MaxStringFinder {

  public static String findMaxString(String str1, String str2) {

      int comparisonResult = 0;


      for (int i = 0; i < Math.min(str1.length(), str2.length()); i++) {
          if (str1.charAt(i) != str2.charAt(i)) {
              comparisonResult = str1.charAt(i) - str2.charAt(i);
              break;
          }
      }

      if (comparisonResult == 0) {

          comparisonResult = str1.length() - str2.length();
      }

      if (comparisonResult > 0) {
          return str1;
```

```
        } else if (comparisonResult < 0) {
            return str2;
        } else {
            return "Both strings are equal.";
        }
    }

    public static void main(String[] args) {
        String str1 = "apple";
        String str2 = "banana";

        String maxString = findMaxString(str1, str2);
        System.out.println("The maximum string is: " + maxString);
    }
}
```

20. Write a program to create a new string repeating every character twice of a given string

a.
```
public class RepeatCharactersTwice {
    public static String repeatCharacters(String str) {

        StringBuilder result = new StringBuilder();
        for (int i = 0; i < str.length(); i++) {
            char ch = str.charAt(i)
            result.append(ch);
            result.append(ch);
        }


        return result.toString();
    }

    public static void main(String[] args) {
        String input = "Hello";

        String repeatedString = repeatCharacters(input);
        System.out.println("Original String: " + input);
        System.out.println("New String with characters repeated twice: " +
```

```
repeatedString);
    }
}
```