CRACK THE CODE

JAVA Programming Questions

Find the Error in the code, if exist and write corrected Code for the given program.

1. **Java program for calculating two numbers.**

```
import java.util.Scanner;

public class SumOfTwoNumbers {

   public static void main(String[] args) {

      Scanner scanner = new Scanner(System.in);

      int num1 = 47;

      System.out.print("Enter the second number: ");

      int num2 = scanner.nextInt();

      int sum = num1 + num2;

      System.out.println("Sum: " + sum);

   }

}
```

2. **Java Program for Tower of Hanoi.**

```
import java.util.Scanner;

public class TowerOfHanoi {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter the number of disks: ");
      int numDisks = scanner.nextInt();

      solveTowerOfHanoi(numDisks, 'A', 'C', 'B');
   }

   static void solveTowerOfHanoi(int n, char source, char destination, char auxiliary) {
      if (n == 1) {
         System.out.println("Move disk 1 from " + source + " to " + destination);
         return;
      }

      solveTowerOfHanoi(n - 1, source, auxiliary, destination);
      System.out.println("Move disk " + n + " from " + source + " to " + destination);
      solveTowerOfHanoi(n - 1, auxiliary, destination, source);
   }
}
```

3. Java Program to Convert Double to String.

```
// Importing Libraries

import java.io.*;

import java.util.*;

// Driver Class

class Num {

	// Main driver function

	public static void main(String[] args)

	{

		// Declaring and initializing double number

		double number = 123.456;

		// Converting Double data to String data

		String output = String.valueOf(number);

		// Printing the above string

		System.out.println(output);

	}

}
```

4. Java Program to Compare two strings lexicographically.

```
// Java program to show how to compare Strings using library function
public class Test
{
	public static void main(String[] args)
	{
		String s1 = "Ram";
		String s2 = "Ram";
		String s3 = "Shyam";
		String s4 = "ABC";

		System.out.println(" Comparing strings with compareTo:");
		System.out.println(s1.compareTo(s2));
		System.out.println(s1.compareTo(s3));
		System.out.println(s1.compareTo(s4));
	}
}
```

5. Java Program to Search an Element in an Array Using Linear Search.

```
import java.util.Arrays;
import java.util.stream.IntStream;

class Linear {

	// Function return true if given element
	// found in array
	private static void check(int[] arr, int toCheckValue)
	{
		// check if the specified element is present in the array or not using Linear Search
		method
		boolean test = false;
		for (int element : arr) {
			if (element == toCheckValue) {
				test = true;
				break;
			}
		}

		// Print the result
		System.out.println("Is " + toCheckValue + " present in the array: " + test);
	}

	public static void main(String[] args)
	{

		// Get the array
		int arr[] = { 5, 1, 1, 9, 7, 2, 6, 10 };

		// Get the value to be checked
		int toCheckValue = 7;

		// Print the array
		System.out.println("Array: "
						+ Arrays.toString(arr));

		// Check if this value is
		// present in the array or not
		check(arr, toCheckValue);
	}
}
```

6. **Write a program to rotate elements of an array to the right by a given number of positions.**

```
import java.util.Arrays;
import java.util.Scanner;

public class ArrayRotation {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter the number of positions to rotate: ");
      int k = scanner.nextInt();
      int[] array = {1, 2, 3, 4, 5};

      System.out.println("Original Array: " + Arrays.toString(array));

      for (int i = 0; i < k; ++i) {
         int lastElement = array[array.length - 1];
         for (int j = array.length - 1; j > 0; --j) {
            array[j] = array[j - 1];
         }
         array[0] = lastElement;
      }

      System.out.println("Array after rotation: " + Arrays.toString(array));
   }
}
```

7. **Java Program to Determine the Unicode Code Point at a given index.**

```
import java.io.*;
class Uni {
        // Main driver method
        public static void main(String[] args)
        {
                // Considering random string for input
                String str = "GEEKS";
                int result_1 = str.codePointAt(0);
                int result_2 = str.codePointAt(1);
                int result_3 = str.codePointAt(2);
                int result_4 = str.codePointAt(3);
                int result_5 = str.codePointAt(4);
                System.out.println("Original String : " + str);

                // Prints unicode character at index 0 to 4 in above input string
                System.out.println("unicode point at 0 = "+ result_1);
                System.out.println("unicode point at 1 = "+ result_2);
                System.out.println("unicode point at 2 = "+ result_3);
                System.out.println("unicode point at 3 = "+ result_4);
                System.out.println("unicode point at 4 = "+ result_5);
        }
```

8. Java Program to Make a File Read-Only.

```
import java.io.File;
public class File {
        public static void main(String[] args)
        {
                boolean flag;
                try {
                        File file = new File("/home/mayur/GFG.java");
                        file.createNewFile();
                        flag = file.setReadOnly();
                        System.out.println("Is File is read-only ? : "+ flag);
                        // checking whether Is file writable
                        flag = file.canWrite();
                        System.out.println("Is File is writable ? : "+ flag);
                }
                catch (Exception e) {
                        e.printStackTrace();
                }
        }
}
```

9. Write a program to check if two strings are anagrams.

```
import java.util.Arrays;
import java.util.Scanner;

public class AnagramCheck {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter the first string: ");
      String str1 = scanner.nextLine();
      System.out.print("Enter the second string: ");
      String str2 = scanner.nextLine();

      // Remove spaces and convert to lowercase for case-insensitive comparison
      str1 = str1.replaceAll("\\s", "").toLowerCase();
      str2 = str2.replaceAll("\\s", "").toLowerCase();

      // Convert strings to char arrays and sort them
      char[] charArray1 = str1.toCharArray();
      char[] charArray2 = str2.toCharArray();
      Arrays.sort(charArray1);
      Arrays.sort(charArray2);

      // Check if the sorted char arrays are equal
      if (Arrays.equals(charArray1, charArray2)) {
         System.out.println("The strings are anagrams.");
      } else {
         System.out.println("The strings are not anagrams.");
      }
   }
}
```

10. Java Program to Convert String to a List of Characters.

```
import java.util.*;
// Java program to convert a String to a List of Characters

class Char {

	// Function to convert String
	// to List of Characters
	public static List<Character>
	convertStringToCharList(String str)
	{

		// Create an empty List of character
		List<Character> chars = new ArrayList<>();

		// For each character in the String
		// add it to the List
		for (char ch : str.toCharArray()) {

			chars.add(ch);
		}

		// return the List
		return chars;
	}

	// Driver code
	public static void main(String[] args)
	{

		// Get the String to be converted
		String str = "Geek";

		// Get the List of Character
		List<Character>
			chars = convertStringToCharList(str);

		// Print the list of characters
		System.out.println(chars);
	}
}
```