05-04-2023 **Assignment-03** **Name:T.Sumanth**

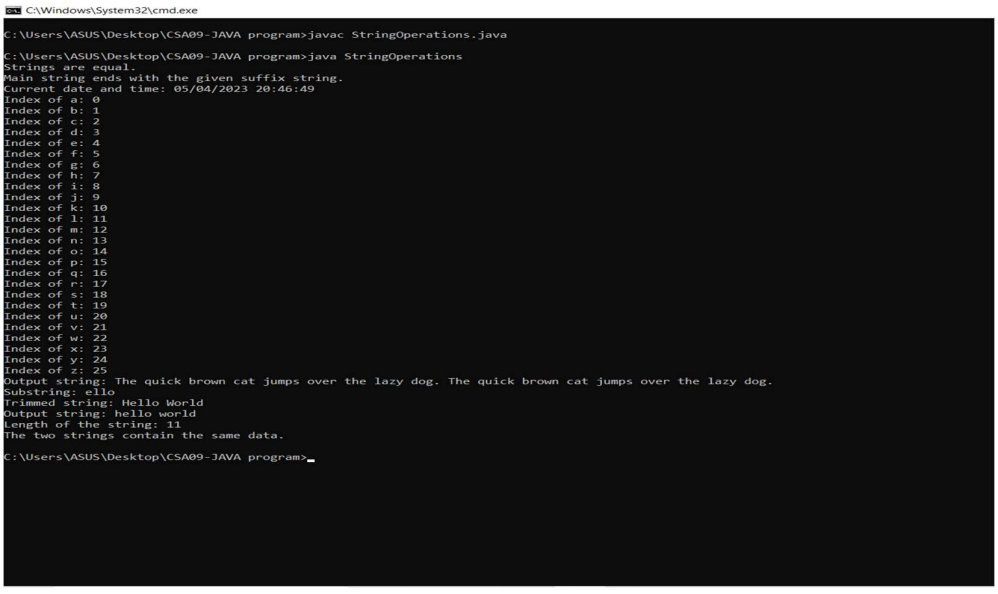
CSA0979-Programming in Java for AJAX Applications Reg.No:192011452

1. **Program:**

```
import java.util.*;
import java.text.*;

public class StringOperations {

   public static void main(String[] args)
   {

      String str1 = "Hello";
      String str2 = "hELLO";
      int result = str1.compareToIgnoreCase(str2);
      if (result == 0) {
         System.out.println("Strings are equal.");
      } else if (result < 0) {
         System.out.println("String 1 is lexicographically smaller than String 2.");
      } else {
         System.out.println("String 2 is lexicographically smaller than String 1.");
      }

      String mainStr = "Hello World";
      String suffixStr = "World";
      boolean endsWith = mainStr.endsWith(suffixStr);
      if (endsWith) {
         System.out.println("Main string ends with the given suffix string.");
      } else {
         System.out.println("Main string does not end with the given suffix string.");
      }

      Date date = new Date();
      SimpleDateFormat sdf = new SimpleDateFormat("dd/MM/yyyy HH:mm:ss");
      String formattedDate = sdf.format(date);
      System.out.println("Current date and time: " + formattedDate);

            String str = "abcdefghijklmnopqrstuvwxyz";
      for (char ch = 'a'; ch <= 'z'; ch++) {
         int index = str.indexOf(ch);
         System.out.println("Index of " + ch + ": " + index);
      }

      String inputStr = "The quick brown fox jumps over the lazy dog. The quick brown fox
jumps over the lazy dog.";
      String regexStr = "fox";
      String replacementStr = "cat";
      String outputStr = inputStr.replaceAll(regexStr, replacementStr);
      System.out.println("Output string: " + outputStr);
```

```
        String input = "Hello World";
        int startIndex = 1;
        int endIndex = 6;
        String output = input.substring(startIndex, endIndex);
        System.out.println("Substring: " + output);

              String strToTrim = "   Hello World    ";
        String trimmedStr = strToTrim.trim();
        System.out.println("Trimmed string: " + trimmedStr);


        String inputString = "Hello World";
        String outputString = inputString.toLowerCase();
        System.out.println("Output string: " + outputString);


        String lenStr = "Hello World";
        int length = lenStr.length();
        System.out.println("Length of the string: " + length);

        String strA = "Hello World";
        String strB = "Hello World";
        boolean areEqual = strA.equals(strB);
        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");

 }
}
}
```

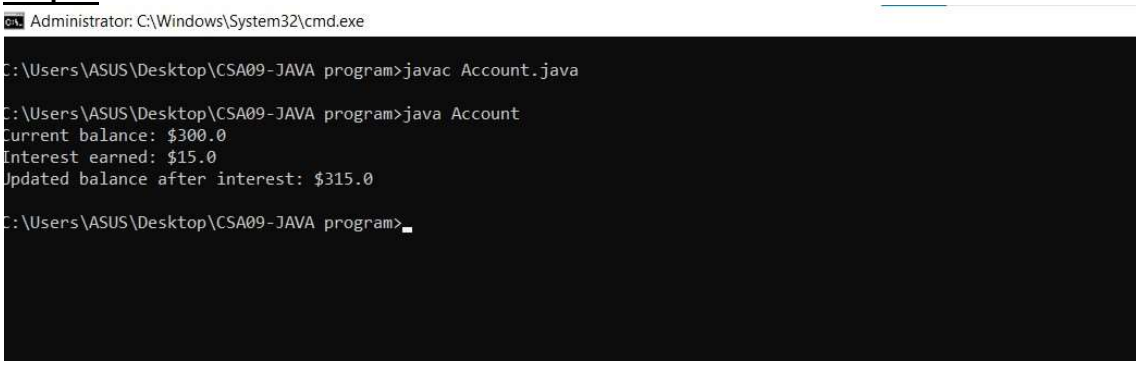
Output:



2.Program:

```
public class Account
{
   private double balance;
public void Account(double initialBalance) {
   this.balance = initialBalance;
}

public void Account() {
   this.balance = 0;
}

public void addMoney(double amount) {
   this.balance += amount;
}

public void withdrawMoney(double amount) {
   if (amount > balance) {
      System.out.println("Insufficient funds. A $5 penalty will be charged.");
      this.balance -= 5;
   } else {
      this.balance -= amount;
   }
}

public double getCurrentBalance() {
   return balance;
}


public double computeInterest(double interestRate) {
   double interest = balance * interestRate / 100;
   this.balance += interest;
   return interest;
}

public static void main(String[] args) {
   Account myAccount = new Account();

   myAccount.addMoney(500);


   myAccount.withdrawMoney(200);

   double balance = myAccount.getCurrentBalance();
   System.out.println("Current balance: $" + balance);
   double interest = myAccount.computeInterest(5);
   System.out.println("Interest earned: $" + interest);
   System.out.println("Updated balance after interest: $" + myAccount.getCurrentBalance());
}
}
```

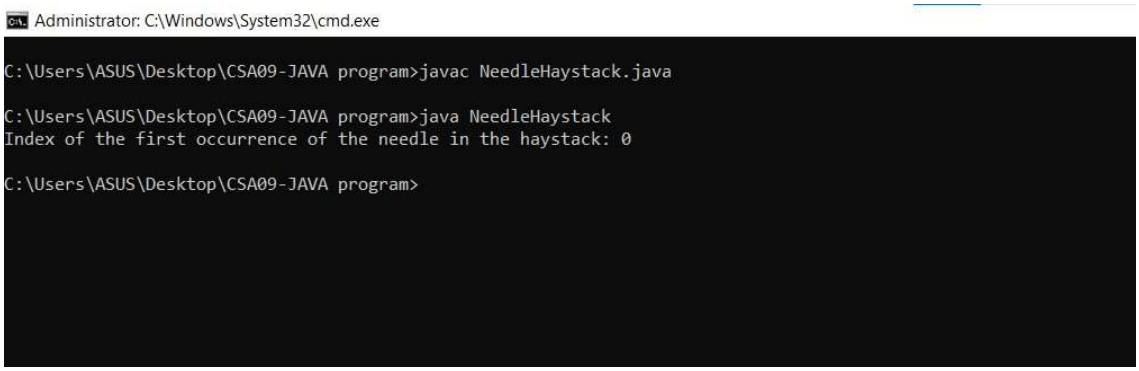
Output:



3.**Program:**

```
public class NeedleHaystack {

    public static int findNeedle(String haystack, String needle) {
        int n = haystack.length();
        int m = needle.length();
        if (m == 0) {
            return 0;
        }
        for (int i = 0; i <= n - m; i++) {
            if (haystack.substring(i, i + m).equals(needle)) {
                return i;
            }
        }
        return -1;
    }

    public static void main(String[] args) {
        String haystack = "sadbutsad";
        String needle = "sad";
        int index = findNeedle(haystack, needle);
        System.out.println("Index of the first occurrence of the needle in the haystack: " +index);
}
}
```

Output



4.**Correcting the error Program:**

```
import java.util.*;

class Factor {
   public static void main(String args[]) {
      try {
         Scanner sc = new Scanner(System.in);
         int count = 0, n = 100, i, j = 0, m = 4;
         int[] a = new int[10];
         System.out.println("Enter the number:");
         n = sc.nextInt();
         if (n <= 0) {
            System.out.println("Enter valid number");
         } else {
            for (i = 1; i <= n; i++) {
               if (n % i == 0) {
                  a[j] = i;
                  System.out.println("..." + i);
                  count++;
                  j++;
               }
            }
            System.out.println("The number of factors: " + count);
         }
         System.out.println(m + "th item: " + a[m - 1]);
      } catch (Exception e) {
         System.out.println("Enter only numbers");
 }
}
}
```

Output