LAB_ANP_C6339_CLASSES_ **StudenID:AF0339439**

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Assignment 1:

Write a Java program that uses lambda expressions to manipulate strings. Create lambda expressions to perform the following operations on a given string:

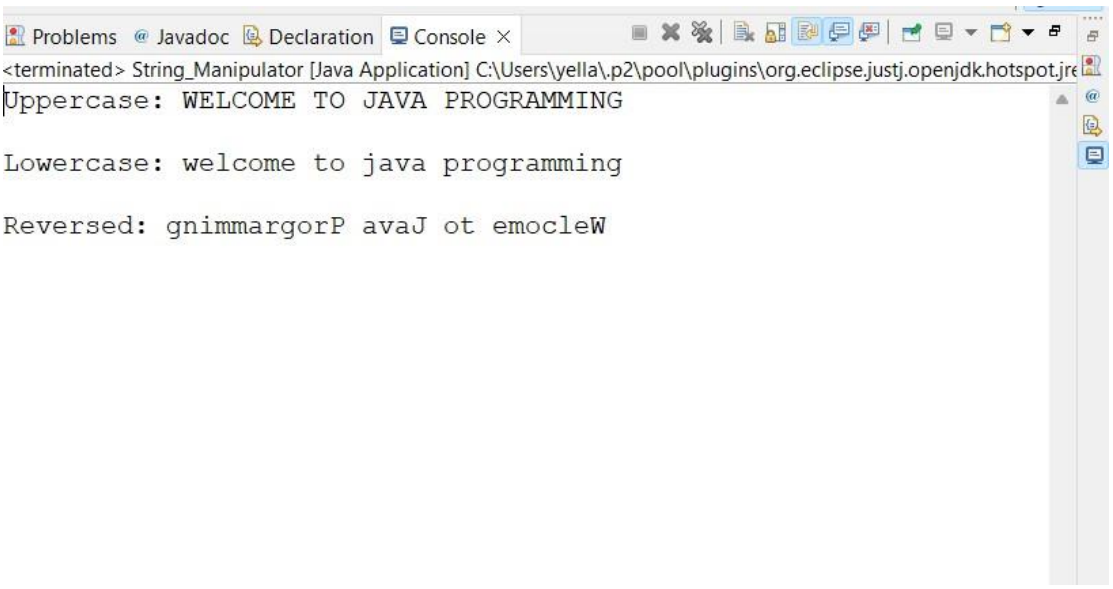
- Convert the string to uppercase
- Convert the string to lowercase
- Reverse the string

Program:1

```
package Lamda_Functions;

interface StringOperation {
                String operate(String input);
            }

            public class String_Manipulator
            {
                public static void main(String[] args)
                {
                    String inputString = "Welcome to Java Programming";

                    // Convert the string to uppercase

                    StringOperation toUpperCaseOperation = str -> str.toUpperCase();
                    String resultUpperCase = performOperation(inputString,
toUpperCaseOperation);
                    System.out.println("Uppercase: " + resultUpperCase);

                    // Convert the string to lowercase
                    System.out.println();
                    StringOperation toLowerCaseOperation = str -> str.toLowerCase();
                    String resultLowerCase = performOperation(inputString,
toLowerCaseOperation);
                    System.out.println("Lowercase: " + resultLowerCase);

                    // Reverse the string
                    System.out.println();
                    StringOperation reverseOperation = str -> new
StringBuilder(str).reverse().toString();
                    String resultReverse = performOperation(inputString,
reverseOperation);
                    System.out.println("Reversed: " + resultReverse);
                }
```

```
 private static String performOperation(String input, StringOperation operation)
                 {
                     return operation.operate(input);


       }

}
```

Output:



Assignment 2.

Write a Java program that demonstrates the use of method references for static methods.

Create a functional interface and use a method reference to call a static method that

calculates the square of a number.

Program2:

```
        package Java_8_Features;

            interface SquareCalculator {
                int calculateSquare(int number);
            }


            class MathUtil {
                static int square(int x) {
                    return x * x;
                }
            }

            public class Squrenumbers {
                public static void main(String[] args)
                {

                 // Using method reference to call the static method
                    SquareCalculator squareCalculator = MathUtil::square;

              // Using the functional interface to calculate the square


 int result = squareCalculator.calculateSquare(6);

                    System.out.println("Square of 6: " + result);



      }

}
```

Output: