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Programme	:	**BTech. CSE Core**	Semester	:	**Win 2021-22**
Course	:	**Java Programming**	Code	:	**CSE1007**
Faculty	:	**Dr. Pradeep K**	Slot	:	**L9+L10**
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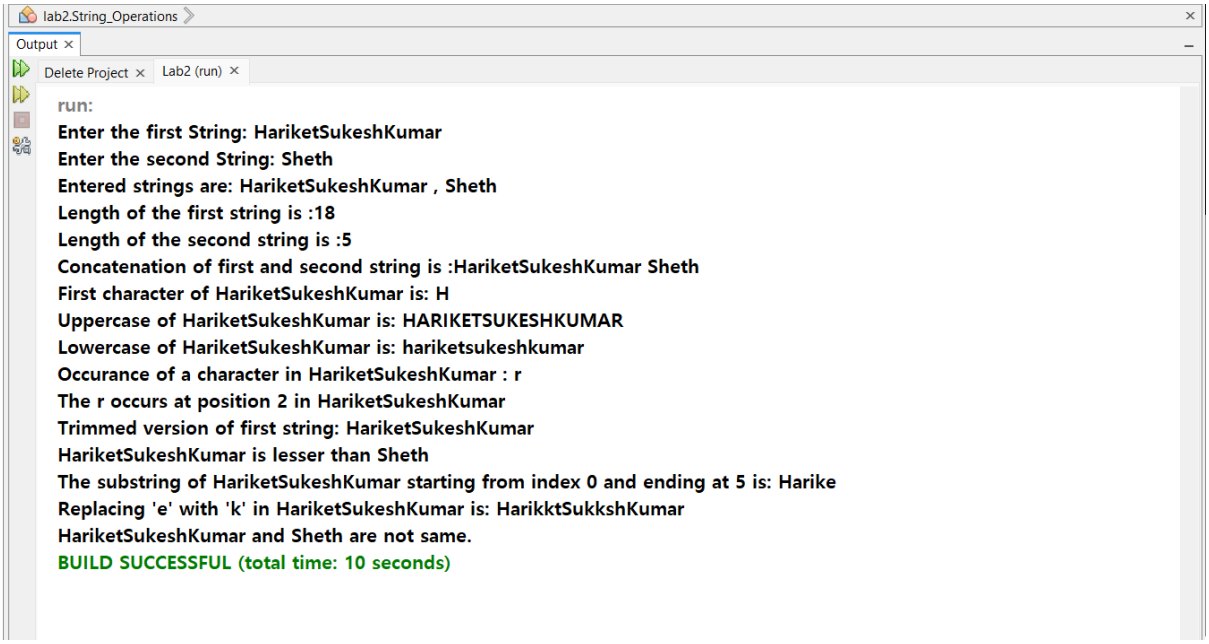
1. Write a program to implement all string operations

```
package lab2;
import java.util.Scanner;

public class String_Operations {

    public static void main(String[] args) {
        String first="", second="";
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the first String: ");
        first=sc.nextLine();
        System.out.print("Enter the second String: ");
        second=sc.nextLine();
        System.out.println("Entered strings are: "+ first +" , "+second);
        System.out.println("Length of the first string is :"+first.length());
        System.out.println("Length of the second string is :"+second.length());
        System.out.println("Concatenation of first and second string is
:"+first.concat(" "+second));
        System.out.println("First character of " +first+" is: "+first.charAt(0));
        System.out.println("Uppercase of " +first+" is: "+first.toUpperCase());
        System.out.println("Lowercase of " +first+" is: "+first.toLowerCase());
        System.out.print("Occurance of a character in "+first+" : ");
        String str=sc.next();
        char c=str.charAt(0);
        System.out.println("The "+c+" occurs at position " + first.indexOf(c)+ " in
" + first);
        System.out.print("Trimmed version of first string: "+first.trim());
        System.out.println();
        int result = first.compareTo(second);
        if(result>0)
```

```
                System.out.println(first + " is greater than " + second);
        else if(result<0)
                System.out.println(first + " is lesser than " + second);
        else
                System.out.println(first + " equals " + second);
        System.out.println("The substring of "+first+" starting from index 0 and
ending at 5 is: " + first.substring(0,6));
        System.out.println("Replacing 'e' with 'k' in "+first+" is:
"+first.replace('e','k'));
        boolean check=first.equals(second);
        if(!check)
        System.out.println(first + " and " + second + " are not same.");
        else
        System.out.println(first + " and " + second + " are same.");
    }

}
```

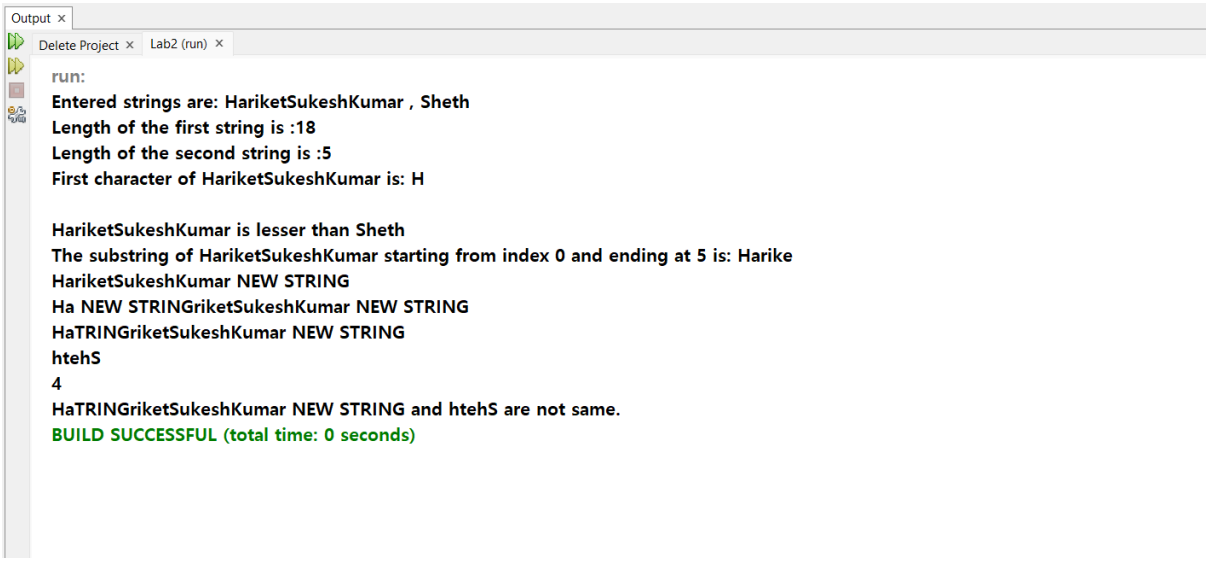
Output:



2. Write a program to implement all String Buffer Operations.

```
package lab2;
import java.util.Scanner;

public class StringBuffer {

    public static void main(String[] args) {
        StringBuffer first = new StringBuffer("HariketSukeshKumar");
        StringBuffer second = new StringBuffer("Sheth");
        Scanner sc=new Scanner(System.in);
        System.out.println("Entered strings are: "+ first +" , "+second);
        System.out.println("Length of the first string is :"+first.length());
        System.out.println("Length of the second string is :"+second.length());
        System.out.println("First character of " +first+" is: "+first.charAt(0));
        System.out.println();
        int result = first.compareTo(second);
        if(result>0)
                System.out.println(first + " is greater than " + second);
        else if(result<0)
                System.out.println(first + " is lesser than " + second);
        else
                System.out.println(first + " equals " + second);
        System.out.println("The substring of "+first+" starting from index 0 and
ending at 5 is: " + first.substring(0,6));
        boolean check=first.equals(second);
        System.out.println(first.append(" NEW STRING"));
        System.out.println(first.insert(2, " NEW STRING"));
        System.out.println(first.delete(2,8));
        System.out.println(second.reverse());
        System.out.println(second.indexOf("S"));

        if(!check)
        System.out.println(first + " and " + second + " are not same.");
        else
        System.out.println(first + " and " + second + " are same.");
    }

}
```

Output:



3. Given two strings (str1 and str2) of lower-case letters, perform the following operations:

Sum the lengths of str1 and str2.

Capitalize the first letter in str1 and str2 and print them on a single line, separated by a space.

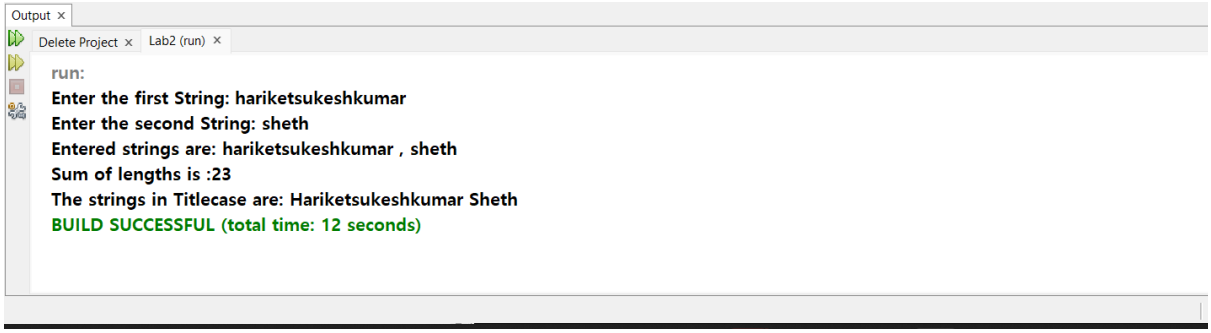
hello java

9
Hello Java

```
package lab2;
import java.util.Scanner;

public class Exercise {
    public static String changeCase(String input) {
    StringBuilder caps = new StringBuilder(input.length());
    boolean nextTitleCase = true;

    for (char c : input.toCharArray()) {
        if (Character.isSpaceChar(c)) {
            nextTitleCase = true;
        } else if (nextTitleCase) {
            c = Character.toTitleCase(c);
            nextTitleCase = false;
        }

        caps.append(c);
```

```
    }

    return caps.toString();
}

    public static void main(String[] args) {
        String first="", second="";
        Scanner sc=new Scanner(System.in);
        System.out.print("Enter the first String: ");
        first=sc.nextLine();
        System.out.print("Enter the second String: ");
        second=sc.nextLine();
        System.out.println("Entered strings are: "+ first +" , "+second);
        System.out.println("Sum of lengths is :"+(first.length()+second.length()));
        System.out.println("The strings in Titlecase are: "+changeCase(first)+"
"+changeCase(second));
    }
}
```

Output:

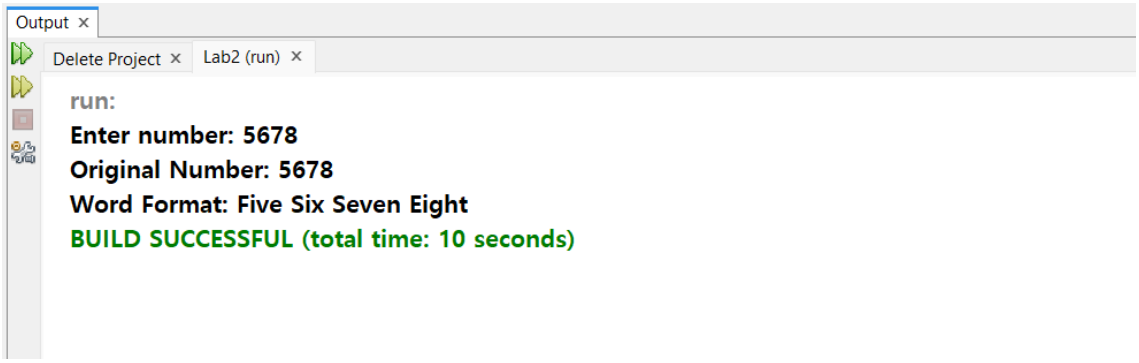


4. Write a Program to convert the entered number to word

```
package lab2;
import java.util.Scanner;

public class NumtoWord {

    public static void main(String[] args) {
        int digit, num, temp;
        String result = "";
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter number: ");
        num = sc.nextInt();
        temp = num;
```

```
        while (temp > 0) {
            digit = temp % 10;
            switch (digit){
                case 0:
                    result = "Zero " + result;
                    break;
                case 1:
                    result = "One " + result;
                    break;
                case 2:
                    result = "Two " + result;
                    break;
                case 3:
                    result = "Three " + result;
                    break;
                case 4:
                    result = "Four " + result;
                    break;
                case 5:
                    result = "Five " + result;
                    break;
                case 6:
                    result = "Six " + result;
                    break;
                case 7:
                    result = "Seven " + result;
                    break;
                case 8:
                    result = "Eight " + result;
                    break;
                case 9:
                    result = "Nine " + result;
                    break;
            }
            temp /= 10;
        }
        System.out.println("Original Number: " + num);
        System.out.println("Word Format: " + result);

    }

}
```

Output:

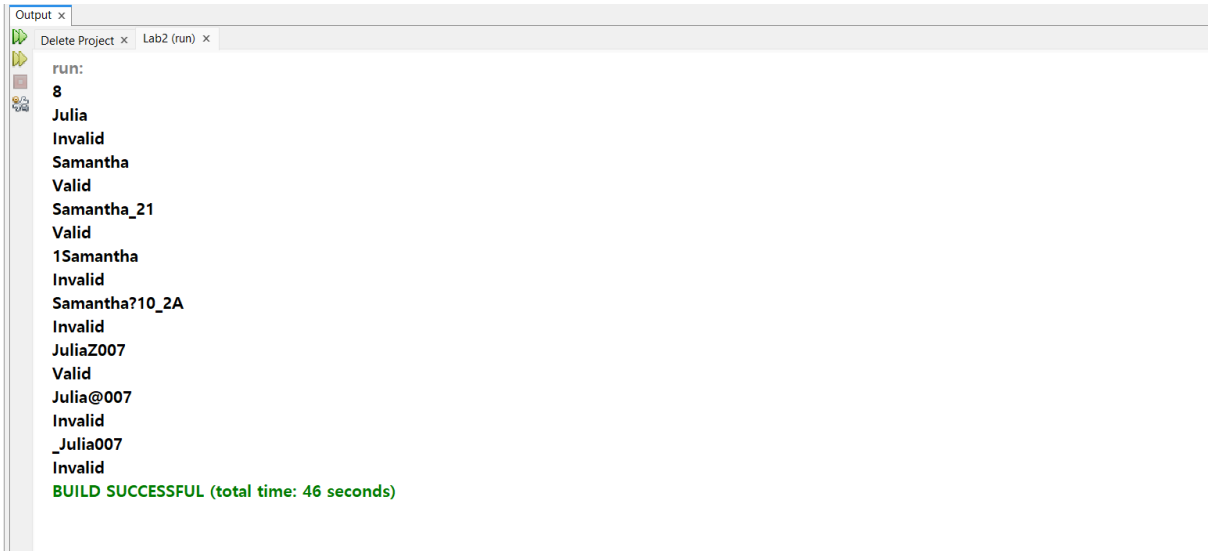


5. You are updating the username policy on your company's internal networkin platform. According to the policy, an username is considered valid if all the following constraints are satisfied:

- The username consists of 8 to 30 characters inclusive. If the username consists of less than or greater than characters, then it is an invalid username
- The username can only contain alphanumeric characters and underscores (_). Alphanumeric characters describe the character set consisting of English lower-case [a-z] characters , upper-case [A-Z] characters , and digits [0-9]
- The first character of the username must be an alphabetic character, i.e. either lower-case character [a-z] or upper-case character [A-Z].

```
package lab2;
import java.util.Scanner;

public class Username {
    public static void main(String[] args) {
        String conditions = "^[a-zA-Z][a-zA-Z_0-9]{7,29}$";
        Scanner sc = new Scanner(System.in);
        int n = Integer.parseInt(sc.nextLine());
        while (n-- != 0) {
            String username = sc.nextLine();
            if (username.matches(conditions))
                System.out.println("Valid");
            else
                System.out.println("Invalid");
        }

    }
}
```

Output:


Output
Delete Project
Lab2 (run)
run:
8
Julia
Invalid
Samantha
Valid
Samantha_21
Valid
1Samantha
Invalid
Samantha?10_2A
Invalid
JuliaZ007
Valid
Julia@007
Invalid
_Julia007
Invalid
BUILD SUCCESSFUL (total time: 46 seconds)