PROGRAMS USING STRING AND STRING BUFFER

WEEK 3:

ROMAN NUMERALS:

```
import java.util.Scanner;
class RomanToInt{
public static void main(String[] args){

Scanner sc=new Scanner(System.in);
String s=sc.nextLine();
int total=0,prev=0;
for(int i=s.length()-1;i>=0;i--){
char c=s.charAt(i);
int cur=0;
switch(c){
case'I':cur=1;break;
case'V':cur=5;break;
case'X':cur=10;break;
case'L':cur=50;break;
case'C':cur=100;break;
case'B':cur=500;break;
case'M':cur=1000;break;}

if(cur<prev) total-=cur;
else total+=cur;
prev=cur;}
System.out.println(total);
}
}
```

```
D:\230701127>java RomanToInt
MCMXCIV
1994

D:\230701127>java RomanToInt
III
3

D:\230701127>java RomanToInt
LVIII
58
```

PALINDROME:

```
import java.util.*;
class Palindrome {
    static boolean checkAlpha(char c) {
        return (c >= 'a' && c <= 'z');
    }
  static boolean IsPalindrome(String input) {
        int i = 0;
        int j = input.length() - 1;
        input = input.toLowerCase();
        while (i <= j) {

            while (i <= j && !checkAlpha(input.charAt(i))) {
                i++;
            }
           while (i <= j && !checkAlpha(input.charAt(j))) {
                j--;
            }

           if (i <= j && input.charAt(i) != input.charAt(j)) {
                return false;
            }


            i++;
           j--;
        }

        return true;
    }

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        String input = scan.nextLine();
        scan.close();

        if (IsPalindrome(input)) {
            System.out.println("True");
        } else {
            System.out.println("False");
        }
    }
```

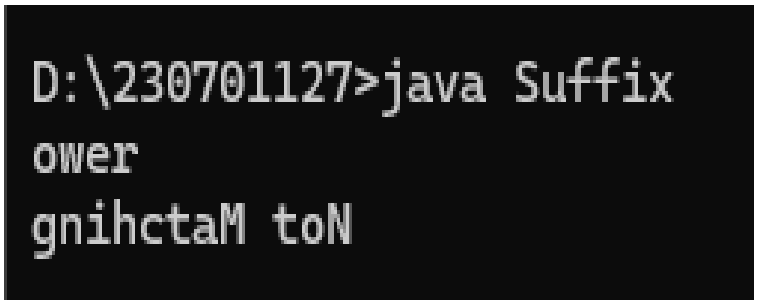
}

```
D:\230701127>java Palindrome
A man, a plan, a canal: Panama
True
```

LONGEST COMMON SUFFIX:

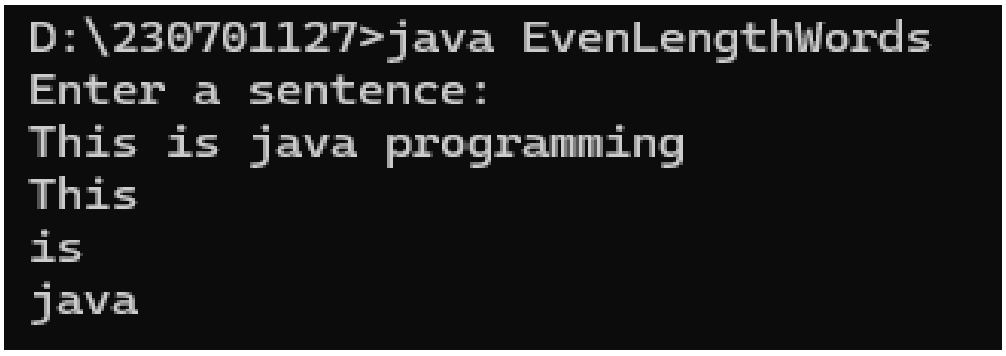
```
public class Suffix {

    public static String longestCommonSuffix(String[] strs) {
        if (strs == null || strs.length == 0) {
            return "Not Matching";
        }


        String[] reversedStrs = new String[strs.length];
        for (int i = 0; i < strs.length; i++) {
            reversedStrs[i] = new StringBuilder(strs[i]).reverse().toString();
        }


        String commonPrefix = longestCommonPrefix(reversedStrs);


        return new StringBuilder(commonPrefix).reverse().toString();
    }

    private static String longestCommonPrefix(String[] strs) {
        if (strs == null || strs.length == 0) {
            return "Not Matching";
        }

        String prefix = strs[0];

        for (int i = 1; i < strs.length; i++) {
            while (strs[i].indexOf(prefix) != 0) {
                prefix = prefix.substring(0, prefix.length() - 1);
```

```
            if (prefix.isEmpty()) {
                return "Not Matching";
            }
        }
    }

    return prefix;
  }

  public static void main(String[] args) {
    String[] strs1 = {"flower", "power", "tower"};
    System.out.println(longestCommonSuffix(strs1));

    String[] strs2 = {"dog", "car", "racecar"};
    System.out.println(longestCommonSuffix(strs2));
  }
}
```



PRINT EVEN LENGTH WORDS:

```
import java.util.Scanner;

public class EvenLengthWords {

    public static void main(String[] args) {
       Scanner scanner = new Scanner(System.in);

        System.out.println("Enter a sentence:");
        String input = scanner.nextLine();

        scanner.close();


        String[] words = input.split("\\s+");


        for (String word : words) {
            if (word.length() % 2 == 0) {
                System.out.println(word);
            }
        }
    }
}
```



STRING BUFFER:

```
import java.util.Scanner;

public class StringManipulation {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String s = sc.nextLine();
        sc.close();

          StringBuilder sb = new StringBuilder(s);


        sb.append(" college, Kanchipuram");


        sb.insert(1, "Engineering ");


        int start = sb.indexOf("Kanchipuram");
        if (start != -1) {
            int end = start + "Kanchipuram".length();
            sb.replace(start, end, "Chennai");
        }


        int chennaiStart = sb.indexOf("Chennai");
        if (chennaiStart != -1) {
            int chennaiEnd = chennaiStart + "Chennai".length();
            sb.delete(chennaiStart, chennaiEnd);
        }


        System.out.println(sb.reverse().toString());
    }
}
```

```
D:\230701127>javac StringManipulation.java

D:\230701127>java StringManipulation

 ,egelloc gnireenignE
```

CAPITALIZE THE LETTERS:

```
import java.util.Scanner;

public class Capitalize {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String s = sc.nextLine();
        sc.close();


        String[] arr = s.split(" ");


        for (String word : arr) {
            if (word.length() < 3) {

                word = word.toLowerCase();
                System.out.print(word + " ");
            } else {

                String newWord = word.substring(0, 1).toUpperCase() +
word.substring(1).toLowerCase();
                System.out.print(newWord + " ");
            }
        }
    }
}
```