Anagram String

```
package com.atipune.java.strings;
import java.util.Arrays;

/*    Step 1. Convert to char array
      step 2.sort the array elements
      step 3.compare the elements of array
      Step 4.Both are same then Anagram String
*/
public class AnagramString {

      public static void areAnagram()
      {

            String str1="listen";
            String str2="silent";
            char[] char1=str1.toCharArray();
            char[] char2=str2.toCharArray();

            Arrays.sort(char1);
            Arrays.sort(char2);
            System.out.println(Arrays.toString(char1));
            System.out.println(Arrays.toString(char2));
            boolean flag=false;

            if(str1.length()==str2.length())
            {
                  for (int i = 0; i < str1.length(); i++)
                  {
                        if (char1[i] == char2[i])
                        {
                              flag=true;
                        }
                  }
            }

            if(flag){
                  System.out.println("are anagram strings");
            }else{
                  System.out.println("not anagram strings");
            }

      }
```

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```
	public static void main(String args[])
	{
		areAnagram();
	}
}
```

Out Put

```
[e, i, l, n, s, t]
[e, i, l, n, s, t]
are anagram strings
```

Find Char in given String

```
package com.atipune.java.strings;
public class CharinString {

	public static void main(String[] args) {
		String str="Ati  Pune  @*N";
		char c[]=str.toCharArray();
		for (int i = 0 ;i<c.length-1; i++)
		{
			if (c[i]=='P') {
				System.out.println("true");
				System.out.println("char is :"+c[i]);
			}
	}
}
}
```

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Out Put

```
true
char is :P
```

Count the number of Word, sentence, character paragraph whitespace from a file

```
package com.atipune.java.strings;

import java.io.BufferedReader;
import java.io.FileInputStream;
import java.io.IOException;
import java.io.InputStreamReader;
```

```
public class CountAllInFile {
	public static void main(String[] args) throws IOException {
		FileInputStream fileStream = new
FileInputStream("D:\\Sep_Mrng_2021_Java\\Java_Basic_Mrng\\src\\com\\atipune\\
java\\strings\\readme.txt");
		InputStreamReader input = new InputStreamReader(fileStream);

		BufferedReader reader = new BufferedReader(input);
		 String line;

		 int countWord = 0;
		 int sentenceCount = 0;
		 int characterCount = 0;
		 int paragraphCount = 1;
		 int whitespaceCount = 0;

		 while((line = reader.readLine()) != null)
		 {
		     if(line.equals(""))
		     {
		         paragraphCount++;
		     } else {
		         characterCount = characterCount+line.length();

		         // \\s+ is the space delimiter in java
		         String[] wordList = line.split("\\s+");

		         countWord += wordList.length;
		         whitespaceCount += countWord -1;

		         // [!?.:]+ is the sentence delimiter in java
		         String[] sentenceList = line.split("[!?.:]+");

		         sentenceCount += sentenceList.length;
		     }
		 }

	System.out.println("Total word count = " + countWord);
	System.out.println("Total number of sentences = " + sentenceCount);
	System.out.println("Total number of characters = " + characterCount);
	System.out.println("Number of paragraphs = " + paragraphCount);
	System.out.println("Total number of whitespaces = " + whitespaceCount);
		 reader.close();
	    }
}
```

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Out Put (output depends on file that you passing)

```
Total word count = 12609
Total number of sentences = 2830
Total number of characters = 93792
Number of paragraphs = 3
Total number of whitespaces = 10987184
```

Count Number Of Characters

```
package com.atipune.java.strings;

public class CountNumOfChar {


		public static void NumofChar()
		{
			String str="java java java java";
			char c='a';
			int count=0;
			for(int i=0;i<str.length();i++)
			{
				if(c==str.charAt(i))
				{
					count++;
				}
			}
			System.out.println("Characters count :"+count);
		}

		public static void main(String[] args) {
	NumofChar();
	}
}
```

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Out Put

```
Characters count: 8
```

Count Number Of words

```
package com.atipune.java.strings;

import java.util.Arrays;

/*    step1:trim the string
      step2: convert to string array split the string with whitespace
      step3  :count string array length

*/
public class CountNumOfWords {

      public static void usingSplit(){
            String str="automation testing test int" ;

                  str.trim();
                  String[] words=str.split(" ");
                    //  words[]=> automation  testing   test  int
                   //                  0       1       2     3

              System.out.println(Arrays.toString(words));
            System.out.println("no of words :"+words.length);
      }

      public static void main(String[] args) {
            usingSplit();
      }

}
```

Out Put

```
[automation, testing, test, int]
no of words :4
```

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Find the duplicate words in given string

```
package com.atipune.java.strings;

/*    Step1: To lowercase
      Step 2: convert to string array
      Step 3 :compare each char of string array and set "0"if both have
same char
      Step 4:Conclusion
*/
public class DuplicateWords {
          public static void main(String[] args) {

              String string = "java java jdk jdk java";
              int count;
              string = string.toLowerCase();
              String[] words = string.split(" ");
               //  words[] => java   0 jdk   0  0
              //               0     1   2   3   4

        System.out.println("Duplicate words in a given string : ");

              for(int i = 0; i < words.length; i++) {
                 count = 1;
                  for(int j = i+1; j < words.length; j++) {
                      if(words[i].equals(words[j])) {
                       count++;//2
                           words[j]  = "0";
                      }
                  }
                     if(count > 1 && words[i] != "0")
                      System.out.println(words[i]);
                 }
            }
      }
```

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Out Put

```
Duplicate words in a given string :
java
jdk
```

Find number of vowels, letters, numbers ,special, characters from string

```
package com.atipune.java.strings;

public class NumOfVowConDigit {

	public static int vow;
	public static int con;
	public static int dig;
	public static int spec;

	public static void countAll()
	{
		String  str1="bwj, reerek @r ^( R 0 +12390-1";
		String str=str1.toUpperCase();
		for(int i=0;i<str.length();i++)
		{
			if(str.charAt(i)=='A' || str.charAt(i)=='E'
||str.charAt(i)=='I' ||str.charAt(i)=='O' ||str.charAt(i)=='U')
			{
				vow++;
			}else if(str.charAt(i)>='A' && str.charAt(i)<='Z')
			   {
				con++;
			 }else if(str.charAt(i)>='0' && str.charAt(i)<='9')
			   {
			     dig++;
			   }else{
				spec++;
			   }
		}
		System.out.println("vowels : "+vow);
		System.out.println("constant or letters:"+con);
		System.out.println("digits:"+dig);
		System.out.println("special char :"+spec);
	}
	public static void main(String[] args) {
		countAll();
	}
}
```

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Out Put

```
vowels : 3
constant or letters:8
digits:7
special char :12
```

Find string is palindrome or not

```
package com.atipune.java.strings;

public class PalindromeString {

	public static void main(String[] args) {
		String string = "Kayak";
		boolean flag = false;

		string = string.toLowerCase();

		for(int i = 0; i < string.length()/2; i++)
		{
		if(string.charAt(i) == string.charAt(string.length()-i-1))
			flag = true;
		   else
			flag =false;
		}

		if(flag)
		System.out.println("Given string is palindrome");
		else
		System.out.println("Given string is not a palindrome");
	}
}
```

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Out Put

```
Given string is palindrome
```

From given string Remove WhiteSpaces and count the same

```
package com.atipune.java.strings;

public class RemoveWhiteSpaces {

	public static void removespace()
	{
		String str="java java java String String ";
	  //  String nstr="javajavajavaStringString";

	String nstr=str.replaceAll("\\s","");
	System.out.println("old string: "+str);
	System.out.println("new string: "+nstr);
	System.out.println("no fo whitespaces:"+(str.length()-
nstr.length()));
	}
	public static void main(String[] args) {
		removespace();
	}
}
```

Out Put

```
old string: java java java String String
new string: javajavajavaStringString
no fo whitespaces:5
```

Reverse the given string

```
package com.atipune.java.strings;

public class StringReverse {

	public static void  usingToCharArray()
	{
		String str="mahadev";
		System.out.println("original string :"+str);
		char[] arr=str.toCharArray();
		System.out.println("Revesre string :");
		for(int i=arr.length-1;i>=0;i--)
		{
```

```
                System.out.print(arr[i]);
            }
        }

        public static void  usingCharAt()
        {
            String str="mahadev";
            System.out.println("original string :"+str);
            System.out.println("Revesre string :");
            for(int i=str.length()-1;i>=0;i--)
            {
                System.out.print(str.charAt(i));
            }
        }


        public static void main(String[] args) {
            System.out.println("usingToCharArray:");
            usingToCharArray();

            System.out.println("\nusingCharAt:");
            usingCharAt();
        }
}
```

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Out Put

```
usingToCharArray:
original string :mahadev
Revesre string :
vedaham
usingCharAt:
original string :mahadev
Revesre string :
Vedaham
```

Swap the two string

```
package com.atipune.java.strings;

public class SwapTwoString{
```

```
//1. concat two string =>str1
//2. replace str1 content with str2 store =>str2
//3.replace str1 content with str2 store => str1
//4.display str1 and str2

      public static void stringSwap()
      {
         String str1="pune";
         String str2 ="ati";

         str1 = str1.concat(str2);//1     //puneati
         System.out.println("str1 is:"+str1); //pune

         str2 = str1.replace(str2,"");//2  str1.replace(ati,"") =>
           // str2=pune   str1=puneati
         System.out.println("str2 is:"+str2);//pune
         System.out.println("str1 is :"+str1);// puneati

         str1 = str1.replace(str2,"");//3   str1=ati
         System.out.println("str1 is :"+str1);

          System.out.println("str1:"+str1+"  "+ "str2:"+str2);
      }

      public static void main(String []args){
            stringSwap();
      }
}
```

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Out Put

```
str1 is:puneati
str2 is:pune
str1 is :puneati
str1 is :ati
str1:ati  str2:pune
```

Practice Program on String:

1. Write a program to reverse the given string word wise?
2. Write a program to check the balance of brackets in the given string?
3. Write a java program to find duplicate characters in a string?
4. Write a java program to check whether one string is a rotation of another?
5. Write a java program to reverse each word of a given string?
6. Write a java program to find all permutations of a string?
7. How to search a word inside a string?
8. Write a program to validate email format?
9. Write a program to validate date format?
10. Write a program to validate phone number format?

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