

JVM ASSIGNMENT

Q1. Write a program to replace a substring inside a string with other string ?

```
public class Q1_Replace_String {  
    public static void main(String[] args){  
        String Str = new String( original: "Welcome to ToTheNew This is a class of JAVA_Programming");  
        System.out.println("Original String is :-"+ Str);  
        System.out.println("Replacing a substring inside a string with other string ");  
        System.out.println("New Updated String is:- ");  
        System.out.println(Str.replace( target: "ToTheNew", replacement: "Company of Big Data"));  
    }  
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:/snap/intellij-idea-community/208/lib/idea_
Original String is :-Welcome to ToTheNew This is a class of JAVA_Programming
Replacing a substring inside a string with other string
New Updated String is:-
Welcome to Company of Big Data This is a class of JAVA_Programming
```

Q2. Write a program to find the number of occurrences of the duplicate words in a string and print them ?

```
public class Q2_Duplicate_Words {  
    public static void main(String[] args) {  
        String string = "Big black bug bit a big black dog on his big black nose";  
        int count;  
        string = string.toLowerCase();  
        String words[] = string.split( regex: " ");  
  
        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++;  
                    words[j] = "0";  
                }  
            }  
            if(count > 1 && words[i] != "0")  
                System.out.println(words[i] + " " + count);  
        }  
    }  
}
```

Q2_Duplicate_Words

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:/snap/intellij-idea-communi
Duplicate words in a given string :
big 3
black 3

Process finished with exit code 0
```

Q3. Write a program to find the number of occurrences of a character in a string without using loop?

```
public class Q3_Occurance_of_Character_withoutLoop{
    public static void main(String[] args)
    {
        String str = "Big black bug bit a big black dog on his big black nose";
        int count = str.length() - str.replace(target: "b", replacement: "").length();
        System.out.println("Number of occurrences of 'b' in "+" = "+count);
    }
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -ja
Number of occurrences of 'b' in  = 7
```

Q4. Calculate the number & Percentage Of Lowercase Letters,Uppercase Letters, Digits And Other Special Characters In A String?

```
public class Q4_UpperChar_LowerChar_Percentage {
    public static void main(String args[])
    {
        String str = "Big Black Bug Bit A Big Black Dog On His Big Black Nose";
        int upper = 0, lower = 0, digits=0, special = 0;
        int total_length = str.length();
        for(int i = 0; i < str.length(); i++)
        {
            char ch = str.charAt(i);
            if (ch >= 'A' && ch <= 'Z')
                upper++;
            else if (ch >= 'a' && ch <= 'z')
                lower++;
            else if (ch >= '0' && ch <= '9')
                digits++;
            else
                special++;
        }

        System.out.println("Lower case letters : " + lower);
        System.out.println("Percentage of lower case letters: "+(lower*100)/total_length+"%");
        System.out.println("Upper case letters : " + upper);
        System.out.println("Percentage of upper case letters: "+(upper*100)/total_length+"%");
        System.out.println("Digits : " + digits);
        System.out.println("Percentage of digits case letters: "+(digits*100)/total_length+"%");
        System.out.println("Special characters : " + special);
        System.out.println("Percentage of special case letters: "+(special*100)/total_length+"%");
    }
}
```

Q4_UpperChar_LowerChar_Percentage > main()

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin
Lower case letters : 30
Percentage of lower case letters: 54%
Upper case letters : 13
Percentage of upper case letters: 23%
Digits : 0
Percentage of digits case letters: 0%
Special characters : 12
Percentage of special case letters: 21%

Process finished with exit code 0
```

Q5. Find common elements between two arrays?

```
import java.util.*;
public class Q5_Common_Element {
    public static void main(String[] args)
    {
        int[] array1 = {1, 2, 5, 10, 8, 9, 7, 15};
        int[] array2 = {1, 0, 5, 15, 6, 4, 7, 0};

        System.out.println("Array1 : "+Arrays.toString(array1));
        System.out.println("Array2 : "+Arrays.toString(array2));

        for (int i = 0; i < array1.length; i++)
        {
            for (int j = 0; j < array2.length; j++)
            {
                if(array1[i] == (array2[j]))
                {
                    System.out.println("Common element is : "+(array1[i]));
                }
            }
        }
    }
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java
Array1 : [1, 2, 5, 10, 8, 9, 7, 15]
Array2 : [1, 0, 5, 15, 6, 4, 7, 0]
Common element is : 1
Common element is : 5
Common element is : 7
Common element is : 15

Process finished with exit code 0
```

Q6. There is an array with every element repeated twice except one. Find that element?

```
public class Q6_Element_Occured_Once {  
    public static void Using_XOR(int[] a) {  
        if (a.length == 0)  
            return;  
        int xor = a[0];  
        for (int i = 1; i < a.length; i++) {  
            xor ^= a[i];  
        }  
        System.out.println("Element appear only once in array is - " + xor);  
    }  
  
    public static void main(String[] args) {  
        int[] a = {1, 5, 6, 2, 1, 6, 4, 3, 2, 5, 3};  
        Using_XOR(a);  
    }  
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:  
Element appear only once in array is - 4  
  
Process finished with exit code 0
```

Q7. Write a program to print your Firstname, LastName & age using static block, static method & static variable respectively?

```
public class p7_Static_Keyword{  
    static int Age = 21;  
  
    static {  
        String FirstName = "Siddhant";  
        System.out.println(FirstName);  
    }  
  
    public static void LastName() {  
        String lastName = "Sharma";  
        System.out.println(lastName);  
    }  
  
    public static void main(String args[]) {  
        LastName();  
        System.out.println(Age);  
    }  
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java  
Siddhant  
Sharma  
21  
  
Process finished with exit code 0  
|
```

Q8. Write a program to reverse a string and remove character from index 4 to index 9 from the reversed string using String Buffer?

```
public class Q8_Reverse_Remove_Character{
    public static void main(String[] args)
    {
        {
            StringBuffer input = new StringBuffer("SIDDHANT SHARMA - BIG DATA TRAINEE");
            System.out.println("String = " + input);
            StringBuffer input1 = input.reverse();
            System.out.println("Reverse of String" + input1 );
            StringBuffer input2 = input1.delete(4, 9);
            System.out.println("After deletion string buffer is = " + input2);
        }
    }
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:/snap/intellij-idea-community/208/lib/idea_rt.jar=3531
String = SIDDHANT SHARMA - BIG DATA TRAINEE
Reverse of StringEENITAD GIB - AMRAHS TNAHDDIS
After deletion string buffer is = EENITAD GIB - AMRAHS TNAHDDIS

Process finished with exit code 0
```

Q9. Write a program to display values of enums using a constructor & getPrice() method (Example display house & their prices)?

```
public class Q9_Enum_Method{  
    enum House_Details {  
        Sharma_House( p: 100000), Bindal_house( p: 900000), Chikara_House( p: 1200000), Dhingra_House( p: 1500000);  
  
        int price;  
  
        House_Details(int p) {  
            price = p;  
        }  
  
        int getPrice() {  
            return price;  
        }  
    }  
  
    public static void main(String[] args){  
  
        for (House_Details tmp : House_Details.values())  
            System.out.println(tmp + " costs " + tmp.getPrice() + " rupees.");  
    }  
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -java  
Sharma_House costs 100000 rupees.  
Bindal_house costs 900000 rupees.  
Chikara_House costs 1200000 rupees.  
Dhingra_House costs 1500000 rupees.  
  
Process finished with exit code 0  
|
```


Q10. Write a single program for following operation using overloading

A) Adding 2 integer number

B) Adding 2 double

C) multiplying 2 float

D) multiplying 2 int

E) concatenate 2 string

F) Concatenate 3 String

```
public class Q10_Overloading_operations {
    public void add(int a, int b)
    { int sum= a+b;
      System.out.println(sum);
    }
    public void add(double a, double b)
    { double sum= a+b;
      System.out.println(sum);
    }
    public void mul(float a, float b)
    { float flm= a*b;
      System.out.println(flm);
    }
    public void mul(int a, int b)
    { int c= a*b;
      System.out.println(c);
    }
    public void concat(String a, String b)
    { String con= a+b;
      System.out.println(con);
    }
    public void concat(String a, String b,String c)
    { String d= a+b+c;
      System.out.println(d);
    }
    public static void main(String[] args) {
        Q10_Overloading_operations j =new Q10_Overloading_operations();
        j.add ( a: 5, b: 8);
        j.add( a: 34, b: 22);
        j.mul( a: 7.8f, b: 6.5f);
        j.mul( a: 5, b: 3);
        j.concat( a: "Hello ", b: "World");
        j.concat( a: "Hello", b: "World", c: "!!!");
    }
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:/snap/intellij-idea-community/208/  
13  
56  
50.7  
15  
Hello World  
HelloWorld!!!  
  
Process finished with exit code 0  
|
```

Q11.Create 3 sub class of bank SBI,BOI,ICICI all 4 should have method called getDetails which provide there specific details like rateofinterest etc,print details of every banks?

```
public class Bank {
    public void get_details() {
        String head="Details of Banks :";
        System.out.println(head);
    }
}

class SBI extends Bank {
    public void get_details() {
        String name = "SIDDHANT SHARMA";
        int number = 987654321;
        int balance = 90000000;
        System.out.println("\nInterest Rate: 6%");
        System.out.println("Account_Number : " + number);
        System.out.println("Account_Holder_Name : " + name);
        System.out.println("Account Holder_Balance : " + balance);
    }
}

class BOI extends Bank {
    public void get_details() {
        String name = "VIPUL CHIKARA";
        int number = 987321654;
        int balance = 70000000;
        System.out.println("\nInterest Rate: 7%");
        System.out.println("Account_Number : " + number);
        System.out.println("Account_Holder_Name : " + name);
        System.out.println("Account Holder_Balance : " + balance);
    }
}

class ICICI extends Bank {
    public void get_details() {
        String name = "DEVANSH BINDAL";
        int number = 986532147;
        int balance = 80000000;
        System.out.println("\nInterest Rate: 8%");
        System.out.println("Account_Number : " + number);
        System.out.println("Account_Holder_Name : " + name);
        System.out.println("Account Holder_Balance : " + balance);
    }
}

class Caller{

    public static void main(String[] args) {
        Bank d = new Bank();
        Bank b = new BOI();
        Bank s = new SBI();
        Bank i = new ICICI();
        d.get_details();
        b.get_details();
        s.get_details();
        i.get_details();
    }
}
```

OUTPUT:-

```
/snap/intellij-idea-community/208/jbr/bin/java -javaagent:/snap/intellij-idea-com
Details of Banks :

Interest Rate: 7%
Account_Number :987321654
Account_Holder_Name :VIPUL CHIKARA
Account_Holder_Balance :70000000

Interest Rate: 6%
Account_Number :987654321
Account_Holder_Name :SIDDHANT SHARMA
Account_Holder_Balance :90000000

Interest Rate: 8%
Account_Number :986532147
Account_Holder_Name :DEVANSH BINDAL
Account_Holder_Balance :80000000

Process finished with exit code 0
```

|