Write a program in Java for dynamically changing the color of Text using Multithreading.

```
textarea.addKeyListener(new KeyAdapter() {
        public void keyPressed(KeyEvent evt) {
            word += evt.getKeyChar();
    if(evt.getKeyCode() == KeyEvent.VK_ENTER) {
        word = "";
        line = "";
        lineInMemory = line;
    }

    if(evt.getKeyCode() == KeyEvent.VK_SPACE) {
        word = word.replaceAll("null","");
        line += word;
        word = "";
        String text = textarea.getText();
        String[] words = line.split(" ");

            if(word.toLowerCase().equals("class")) {

                // What the heck do I put here?!

            }
        }
    }
});
```

Differentiate Multiprocessing and Multithreading. Display Multiplication table for 5 and 10 using various stages of life cycle of the thread by generating a suitable code in Java.

```
class Table
{
void printtable(int n)
{
for(int i=1;i<=10;i++)
{System.out.println(n*i);
try
{Thread.sleep(500);}
catch(Exception e)
{System.out.println("invalid");}
}
}}
class A extends Thread
{
Table t;
A(Table t)
{this.t=t;
}
public void run()
{t.printtable(8);}
}

class B extends Thread
{
Table t;
B(Table t){
this.t=t;
}
```

```
public void run()
{t.printtable(7);}
}
class syn
{public static void main(String[]args)
{Table p=new Table();
A t1=new A(p);
B t2=new B(p);
t1.start();
t2.start();
}
}
```

An ugly number is a positive integer whose prime factors are limited to 2, 3, and 5.

Given an integer n, return true if n is an ugly number.

```
import java.util.*;
import java.io.*;
class object {
static int isUgly(int n)
{
if (n == 1)
return 1;
if (n <= 0)
return 0;
if (n % 2 == 0) {
return (isUgly(n / 2));
}
if (n % 3 == 0) {
return (isUgly(n / 3));
}
if (n % 5 == 0) {
return (isUgly(n / 5));
}
```

```
return 0;
}
public static void main(String args[])
{   int k;
System.out.println("enter the number:");
Scanner m=new Scanner(System.in);
k=m.nextInt();
int no = isUgly(k);
if (no == 1)
System.out.println("Yes");
else
System.out.println("No");
}
}
```

Input: n = 14
Output: false

The Fibonacci numbers, commonly denoted F(n) form a sequence, called the Fibonacci sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1. That is,

Ans

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

```
{
int n ,a=0,b=1 ,k,i;
System.out.println("enter the no of fibonacci value");
Scanner m=new Scanner(System.in);
n=m.nextInt();
for (i=0;i<=n;i++)
{k=a;
a=b;
b=k+b;
}System.out.println(+a);
}
}
```

Input: n = 2
Output: 1

Removing duplicate elements in java : Find/Debug the errors and get output

```
class duplicate
{
    // Function to remove duplicate elements
    // This function returns new size of modified
    // array.
    static int removeDuplicates(int arr[], int n)
    {
```

```
// Return, if array is empty
// or contains a single element
if (n==0 || n==1)
    return n;
      int[] temp = new int[n];
        // Start traversing elements
int j = 0;
for (int j=0; i<n-1; i++)
    // If current element is not equal
    // to next element then store that
    // current element
    if (arr[i] != arr[i+1])
        temp[j++] = arr[i];
         // Store the last element as whether
// it is unique or repeated, it hasn't
// stored previously
temp[j++] = arr[n-1];

// Modify original array
for (int i=0; i<j; i++)
    arr[i] = temp[i];
            return j;
    }
        public static void main (String[] args)
    {
        it arr[] = {10, 20, 20, 30, 40, 40, 40, 50, 50};
        int n = arr.length;

        n = removeDuplicates(arr);
          // Print updated array
        for (int i=0; i<n; i++)
          System.out.print(arr[i]+" ");
    }
}
```

Ans:

In line 15:: for (int j=0; i<n-1; i++) -> for (int i=0; i<n-1; i++)

in line 33 :: “ it “ is not it should be “ int”

Write a program to reverse a word using loop?

```
import java.util.*;
class Reverse
{
    public static void main(String[] args) {
  System.out.println("enter the word:");
        String string ;
        Scanner m=new Scanner(System.in);
        string=m.nextLine();
        String reversedStr = "";
        for(int i = string.length()-1; i >= 0; i–){
            reversedStr = reversedStr + string.charAt(i);
        }

        System.out.println("Original string: " + string);
        System.out.println("Reverse of given string: " + reversedStr);
    }
}
```

Input:

Enter the word: vivek

Output:

Original string: vivek

Reverse of given string: keviv

Write a java program to convert string into integer

```
public class StringToIntExample1{
public static void main(String args[]){
String s="200";
int i=Integer.parseInt(s);
System.out.println(i);
}}
```

Sample Input:
String: 1234
Sample Output:
Out put String: 1234

Write a program to check the entered user name is valid or not. Get both the inputs from the user.

```
import java.util.regex.*;

class GFG {
public static boolean isValidUsername(String name)
{

String regex = "^[A-Za-z]\\w{5,29}$";

Pattern p = Pattern.compile(regex);

if (name == null) {
return false;
}

Matcher m = p.matcher(name);

return m.matches();
}

public static void main(String[] args)
{

String str1 = "Geeksforgeeks";
System.out.println(isValidUsername(str1));

String str3 = "1Geeksforgeeks";
System.out.println(isValidUsername(str3));
```

```
String str5 = "Ge";
System.out.println(isValidUsername(str5));
}
}
```

Write a program that would sort a list of names in alphabetical order Ascending or Descending, choice get from the user?

```
import java.io.*;

class GFG {
    public static void main(String[] args)
    {
int n = 4;
        String names[] = {"Rahul", "Ajay", "Gourav", "Riya"};
        String temp;
        for (int i = 0; i < n; i++) {
            for (int j = i + 1; j < n; j++) {
 if (names[i].compareTo(names[j]) > 0) {
                temp = names[i];
                  names[i] = names[j];
                  names[j] = temp;
```

```
            } }    }
System.out.println("The names in alphabetical order are: ");
        for (int i = 0; i < n; i++) {
            System.out.println(names[i]);
        }
    }
}
```

Output:

Ajay , Gourav ,Rahul ,Riya

Write a program to print the special characters separately and print number of Special characters in the line?

```
import java.io.*;
import java.util.*;
 class GFG {
public static void main(String[] args)
  {int count = 0;
     String s;
System.out.println("enter string:");
Scanner m=new Scanner(System.in);
s=m.nextLine();
System.out.println("special charcaters are:");
 for (int i = 0; i < s.length(); i++) {
  if (!Character.isDigit(s.charAt(i)) && !Character.isLetter(s.charAt(i))
&& !Character.isWhitespace(s.charAt(i)))
```

```
{count++;
  System.out.println(s.charAt(i));}
      }
 if (count == 0){
System.out.println("No Special Characters found.");}
      else
  {System.out.println(count+" "+"Special Characters found.");
    }
}
```

Input: 54r234r3#$@$$

Output: #,$,@$$

Write a program to print the number of vowels in the given statement?

```
import java.util.*;



class object
{
public static void main(String[]args)
{
Scanner m=new Scanner(System.in);
String s=m.nextLine();
String s1=s.replaceAll("[aeiou]","");
int k=s1.length();
int l=s.length();
```

```
int p;
p=l-k;
System.out.println("no of vowels =");
System.out.println(p);
System.out.println(s1);
}
}
```

Sample Input:

Saveetha School of Engineering

Sample Output:

Number o vowels = 12

Write a program to print consonants and vowels separately in the given word

```
import java.util.Scanner;
class object
{
public static void main(String[] args) {
Scanner scanner = new Scanner(System.in);
System.out.print("Input string : ");
String str = scanner.nextLine();
scanner.close();
```

```
str = str.toLowerCase();

int vCount = 0, cCount = 0;

System.out.println( "consonants");

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') {

vCount++;}

if (str.charAt(i) >= 'a' && str.charAt(i) <= 'z')

{System.out.println( str.charAt(i));

cCount++;

}

}}}
```

Sample Input:

Given Word: Engineering

Sample Output:

Consonants: n g n r n g

Write a program to arrange the letters of the word alphabetic order in reverse order.

```
import java.util.Scanner;

class object

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

        Scanner in = new Scanner(System.in);

        System.out.println("Enter a string:");

        String str = in.nextLine();
```

```
        str = str.toLowerCase();
        int len = str.length();
    String sortedStr = ""; //Empty String
        for (char ch = 'a'; ch <= 'z'; ch++) {
            for (int i = 0; i < len; i++) {
                char strCh = str.charAt(i);
                if (ch == strCh) {
                    sortedStr += strCh;
                }} }
    System.out.println("Alphabetical order:");
    System.out.println(sortedStr);
    String  nstr="";
      char ch;
      for (int i=0; i<sortedStr.length(); i++)
     {ch= sortedStr.charAt(i); //extracts each character
      nstr= ch+nstr; //adds each character in front of the existing string  }
     System.out.println("Reversed word: "+ nstr);
    }}
```

Sample Input:

Enter the word: MOSQUE

Sample Output:

Alphabetical Order: U S Q O M E

Write a program that accepts a string from user and displays the same string after removing vowels from it.

```
import java.util.*;
class object
{
public static void main(String[]args)
{
Scanner m=new Scanner(System.in);
String s=m.nextLine();
String s1=s.replaceAll("[aeiou]","");
System.out.println(s1);
}
}
```

Sample Input & Output:

Enter a string: we can play the game

The string without vowels is: w cn ply thgm