

CSA0976 Java Programming

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Assignment 3

1.Code:

```
import java.awt.*;
import java.util.*;
import javax.swing.*;

public class ColorfulText extends JPanel implements Runnable {
    private static final long serialVersionUID = 1L;
    private int x, y;
    private String message;
    private Color color;
    private Random random;

    public ColorfulText() {
        x = 50;
        y = 50;
        message = "Hello, world!";
        color = Color.BLACK;
        random = new Random();
    }

    @Override
    protected void paintComponent(Graphics g) {
```

```
super.paintComponent(g);  
g.setFont(new Font("Arial", Font.BOLD, 36));  
g.setColor(color);  
g.drawString(message, x, y);  
}
```

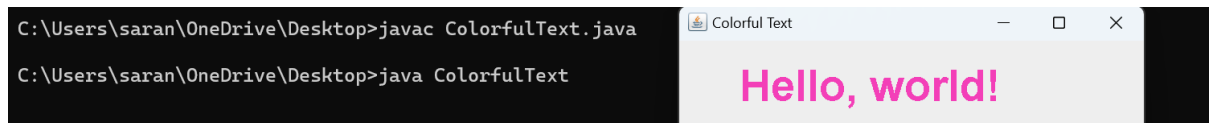
@Override

```
public void run() {  
    while (true) {  
        try {  
            Thread.sleep(1000);  
        } catch (InterruptedException e) {  
            e.printStackTrace();  
        }  
        color = new Color(random.nextInt(256), random.nextInt(256),  
random.nextInt(256));  
        repaint();  
    }  
}
```

```
public static void main(String[] args) {  
    JFrame frame = new JFrame("Colorful Text");  
    frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
    frame.setSize(400, 200);  
    ColorfulText colorfulText = new ColorfulText();  
    frame.add(colorfulText);  
    frame.setVisible(true);  
    Thread thread = new Thread(colorfulText);
```

```
        thread.start();
    }
}
```

Output:



```
C:\Users\saran\OneDrive\Desktop>javac ColorfulText.java
C:\Users\saran\OneDrive\Desktop>java ColorfulText
```

Colorful Text

Hello, world!

2.Code:

class Table

```
{
    void printTable(int n)
    {
        synchronized(this)
        {
            for(int i=1;i<=5;i++)
            {
                System.out.println(n+"*"+i+"="+n*i);
                try
                {
                    Thread.sleep(500);
                }
                catch(Exception e)
                {
                    System.out.println(e);
                }
            }
        }
    }
}
```

```
}  
class Mythread1 extends Thread  
{  
    Table t;  
    Mythread1(Table t)  
    {  
        this.t=t;  
    }  
    public void run()  
    {  
        t.printTable(5);  
    }  
}  
class Mythread2 extends Thread  
{  
    Table t;  
    Mythread2(Table t)  
    {  
        this.t=t;  
    }  
    public void run()  
    {  
        t.printTable(10);  
    }  
}  
class Use  
{
```

```

    public static void main(String arg[])
    {
        Table obj=new Table();
        Mythread1 th1=new Mythread1(obj);
        Mythread2 th2=new Mythread2(obj);
        th1.start();
        th2.start();
    }
}

```

Output:

```

Microsoft Windows [Version 10.0.22621.1265]
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C:\Users\VARUN>cd OneDrive
C:\Users\VARUN\OneDrive>cd Desktop
C:\Users\VARUN\OneDrive\Desktop>cd java
C:\Users\VARUN\OneDrive\Desktop\java>javac multithreading.java
C:\Users\VARUN\OneDrive\Desktop\java>java table
Error: Could not find or load main class table
Caused by: java.lang.NoClassDefFoundError: Table (wrong name: table)
C:\Users\VARUN\OneDrive\Desktop\java>java use
Error: Could not find or load main class use
Caused by: java.lang.NoClassDefFoundError: Use (wrong name: use)
C:\Users\VARUN\OneDrive\Desktop\java>java Use
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
10*1=10
10*2=20
10*3=30
10*4=40
10*5=50
C:\Users\VARUN\OneDrive\Desktop\java>|

```

3.Code:

```

import java.io.*;
import java.util.*;
class ugly
{
    public static boolean ugl(int n)

```

```

{
    if(n<=0)
    {
        return false;
    }
    while(n%2==0)
    {
        n/=2;
    }
    while(n%3==0)
    {
        n/=3;
    }
    while(n%5==0)
    {
        n/=5;
    }
    return n==1;
}

public static void main(String arg[])
{
    int n;
    Scanner a=new Scanner(System.in);
    System.out.print("Enter a numnber :");
    n=a.nextInt();
    if(ugl(n))
    {

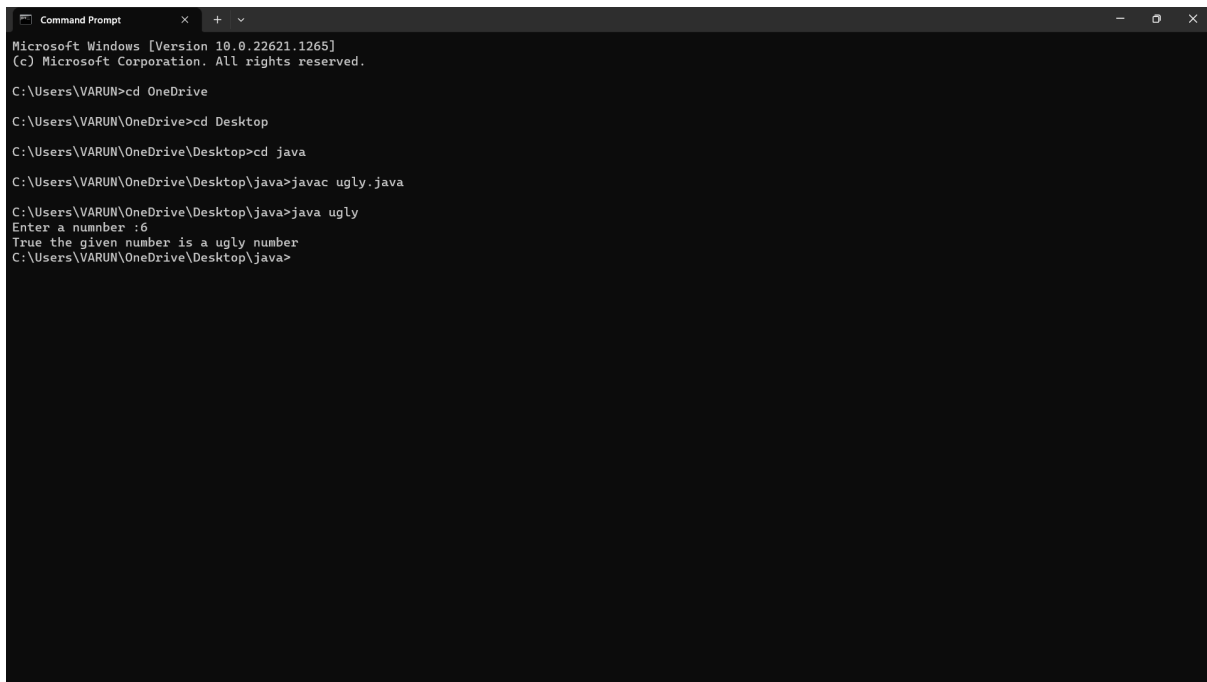
```

```

        System.out.print("True the given number is a ugly number");
    }
    else
    {
        System.out.print("False the given number is not a ugly
number");
    }
}
}
}

```

Output:



```

Microsoft Windows [Version 10.0.22621.1265]
(c) Microsoft Corporation. All rights reserved.

C:\Users\VARUN>cd OneDrive
C:\Users\VARUN\OneDrive>cd Desktop
C:\Users\VARUN\OneDrive\Desktop>cd java
C:\Users\VARUN\OneDrive\Desktop\java>javac ugly.java
C:\Users\VARUN\OneDrive\Desktop\java>java ugly
Enter a number :6
True the given number is a ugly number
C:\Users\VARUN\OneDrive\Desktop\java>

```

4.Code:

```

import java.io.*;
import java.util.*;
class fiboseries
{
    public static void main(String arg[])
    {

```

```

    int n;
    Scanner a=new Scanner(System.in);
    System.out.print("Enter a number :");
    n=a.nextInt();
    if(n<0)
    {
        System.out.println("Enter a positive Integer ");
    }
    else
    {
        System.out.print("Output :"+fibonacci(n));
    }
}
public static int fibonacci(int n)
{
    if(n==1||n==0)
    {
        return(n);
    }
    else
    {
        return(fibonacci(n-1)+fibonacci(n-2));
    }
}
}

```

Output:


```
Command Prompt
Microsoft Windows [Version 10.0.22621.1265]
(c) Microsoft Corporation. All rights reserved.

C:\Users\VARUN>cd OneDrive
C:\Users\VARUN\OneDrive>cd Desktop
C:\Users\VARUN\OneDrive\Desktop>cd java
C:\Users\VARUN\OneDrive\Desktop\java>javac fiboseries.java
C:\Users\VARUN\OneDrive\Desktop\java>java fioboseries
Error: Could not find or load main class fioboseries
Caused by: java.lang.ClassNotFoundException: fioboseries
C:\Users\VARUN\OneDrive\Desktop\java>java fiboseries
Enter a number :4
Output :3
C:\Users\VARUN\OneDrive\Desktop\java>java fiboseries
Enter a number :5
Output :5
C:\Users\VARUN\OneDrive\Desktop\java>java fiboseries
Enter a number :6
Output :8
C:\Users\VARUN\OneDrive\Desktop\java>|
```

5.Code:

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 i=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)
{
    int arr[] = {10, 20, 20, 30, 40, 40, 40, 50, 50};
    int n = arr.length;

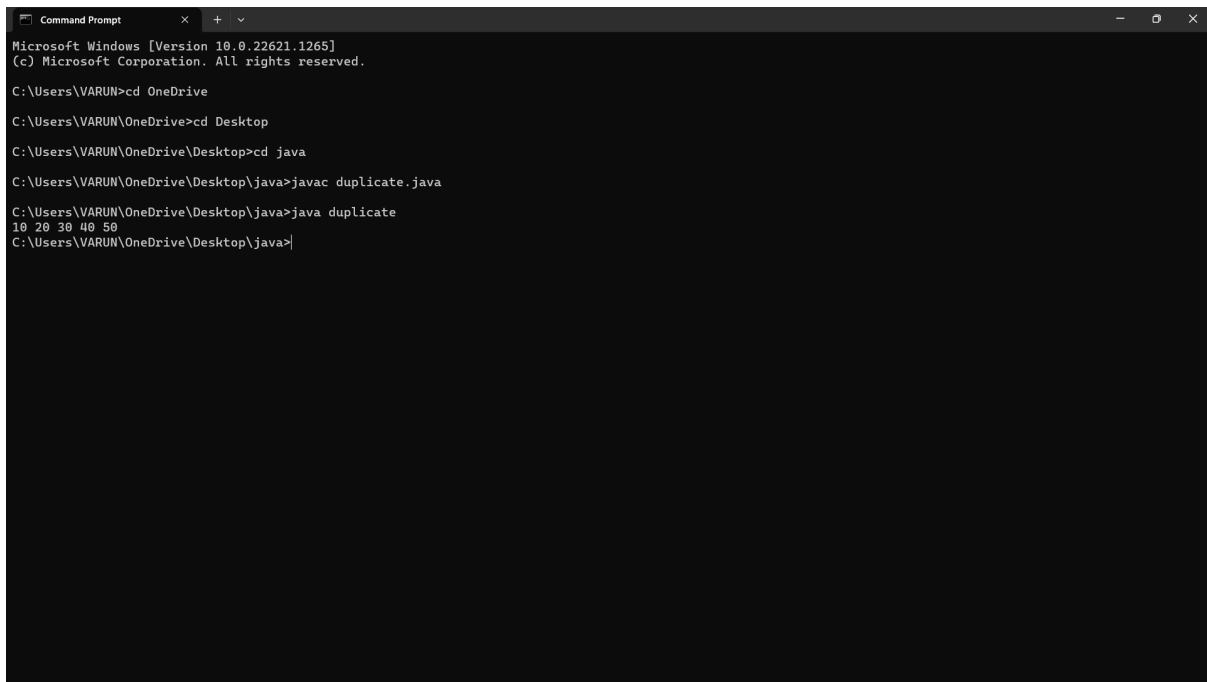
    n = removeDuplicates(arr, n);

    // Print updated array

```

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

Output:



```
Command Prompt  
Microsoft Windows [Version 10.0.22621.1265]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\VARUN>cd OneDrive  
  
C:\Users\VARUN\OneDrive>cd Desktop  
  
C:\Users\VARUN\OneDrive\Desktop>cd java  
  
C:\Users\VARUN\OneDrive\Desktop\java>javac duplicate.java  
  
C:\Users\VARUN\OneDrive\Desktop\java>java duplicate  
10 20 30 40 50  
C:\Users\VARUN\OneDrive\Desktop\java>|
```