

CSA0976 Java Programming

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Assignment 3

1.

```
import java.awt.Color;

import java.awt.Font;

import java.awt.Graphics;

import java.awt.event.ActionEvent;

import java.awt.event.ActionListener;

import java.util.Random;

import javax.swing.JFrame;

import javax.swing.JPanel;

import javax.swing.Timer;

public class DynamicTextColor extends JPanel implements
ActionListener {
```



```
private static final long serialVersionUID = 1L;
```

```
private final int DELAY = 50;
```

```
private final Timer timer;
```

```
private final Random random;
```

```
private Color color;
```

```
private Font font;
```

```
private String message;
```

```
public DynamicTextColor() {
```

```
    setDoubleBuffered(true);
```

```
    timer = new Timer(DELAY, this);
```

```
    random = new Random();
```

```
    font = new Font("Arial", Font.BOLD, 36);
```

```
    message = "Dynamic Text Color";
```

```
    timer.start();
```

```
}
```



@Override

```
public void paintComponent(Graphics g) {
```

```
    super.paintComponent(g);
```

```
    g.setFont(font);
```

```
    g.setColor(color);
```

```
    g.drawString(message, 10, 50);
```

```
}
```

@Override

```
public void actionPerformed(ActionEvent e) {
```

```
    color = new Color(random.nextInt(256),  
    random.nextInt(256), random.nextInt(256));
```

```
    repaint();
```

```
}
```

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

```
    JFrame frame = new JFrame("Dynamic Text Color");
```



```

frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

frame.setSize(400, 100);

DynamicTextColor panel = new DynamicTextColor();

frame.add(panel);

frame.setVisible(true);

}

}

```

```

java -cp /tmp/VHiFCgDEdY DynamicTextColor
Exception in thread "main" java.awt.HeadlessException:
No X11 DISPLAY variable was set, but this program performed an
operation which requires it.
at java.desktop/java.awt.GraphicsEnvironment.checkHeadless
(GraphicsEnvironment.java:208)at java.desktop/java.awt.Window.<init>
(Window.java:548)at java.desktop/java.awt.Frame.<init>(Frame.java
:423)
at java.desktop/javafx.swing.JFrame.<init>(JFrame.java:224)at
DynamicTextColor.main(DynamicTextColor.java:44)

```

2

```

public class MultiplicationTableThread extends Thread {
    private int number;

    public MultiplicationTableThread(int number) {

```



```

        this.number = number;
    }

    public void run() {
        System.out.println("Multiplication table for " + number);
        for (int i = 1; i <= 10; i++) {
            System.out.println(number + " x " + i + " = " + (number *
i));

            try {
                Thread.sleep(100);
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
        }
    }
}

```

```

public static void main(String[] args) {

    MultiplicationTableThread thread1 = new
MultiplicationTableThread(5);

    MultiplicationTableThread thread2 = new
MultiplicationTableThread(10);
}

```



```
thread1.start();
```

```
thread2.start();
```

```
try {
```

```
    thread1.join();
```

```
    thread2.join();
```

```
} catch (InterruptedException e) {
```

```
    e.printStackTrace();
```

```
}
```

```
}
```

```
}
```

```
^ java -cp /tmp/VHiFCgDEdY MultiplicationTableThread
Multiplication table for 5
Multiplication table for 10
10 x 1 = 10
5 x 1 = 5
10 x 2 = 20
5 x 2 = 10
10 x 3 = 30
5 x 3 = 15 10 x 4 = 40
5 x 4 = 20
10 x 5 = 50
5 x 5 = 25
10 x 6 = 60
5 x 6 = 30
10 x 7 = 70
▼ 5 x 7 = 35
```



3

```
import java.util.Scanner;

public class Fibonacci
{
    public static void main(String[] args)
    {
        int n, a = 0, b = 0, c = 1;
        Scanner s = new Scanner(System.in);
        System.out.print("Enter value of n:");
        n = s.nextInt();
        System.out.print("Fibonacci Series:");
        for(int i = 1; i <= n; i++)
        {
            a = b;
            b = c;
            c = a + b;
            System.out.print(a+" ");
        }
    }
}
```



```
java -cp /tmp/Q6nrgMHi5Q Fibonacci
Enter value of n:12
Fibonacci Series:0 1 1 2 3 5 8 13 21 34 55 89 |
```

4

```
public class Solution {
    public boolean isUgly(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;
    }
}

```

```

java -cp /tmp/Q6nrgMHi5Q GFG
150th ugly no. is 5832

```

```

5
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];
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];
```



```
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>
```

