CHRIST
(DEEMED TO BE UNIVERSITY)
DELHI-NCR, INDIA

Java Programming

MCA-272

Assignment – 08

BY

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SUBMITTED TO

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1. **Thread Priority : --**

```
package Threads_and_Swings;

class thread1 extends Thread {
    thread1(String name) {
        super(name);
    }

    public void run() {
        for (int i = 0; i < 10; i++) {
            System.out.println("Good Morning");
            try {
            } catch (Exception e) {
                System.out.println(e);
            }
        }
    }
}

class thread2 extends Thread {
    thread2(String name) {
        super(name);
    }

    public void run() {
        for (int i = 0; i < 10; i++) {
            System.out.println("Myself Himanshu Heda");
            try {
            } catch (Exception e) {
                System.out.println(e);
            }
        }
    }
}

public class Thread_priority {
    public static void main(String[] args) {
        thread1 t1 = new thread1("This is the program on Thread Priority");
        thread2 t2 = new thread2("Have a Look on it.");

        // Print initial thread names and priorities
        System.out.println("Thread 1 name is " + t1.getName());
        System.out.println("Thread 2 name is " + t2.getName());
        System.out.println("Thread 1 Priority is " + t1.getPriority());
        System.out.println("Thread 2 Priority is " + t2.getPriority());
```

```
        // Set new priorities
        t1.setPriority(9);
        t2.setPriority(3);

        // Start the threads
        t1.start();
        t2.start();

        try {
            // Wait for threads to complete
            t1.join();
            t2.join();
        } catch (InterruptedException e) {
            System.out.println(e);
        }

        // Print final priorities after threads have completed
        System.out.println("Thread 1 Priority is " + t1.getPriority());
        System.out.println("Thread 2 Priority is " + t2.getPriority());
    }
}
```

Output : --

```
Thread 1 name is This is the program on Thread Priority
Thread 2 name is Have a Look on it.
Thread 1 Priority is 5
Thread 2 Priority is 5
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Good Morning
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Myself Himanshu Heda
Thread 1 Priority is 9
Thread 2 Priority is 3
```

2. **Synchronization Thread : --**

```java
package Threads_and_Swings;

class SharedCounter {
    private int count = 0;

    // Synchronized method to ensure thread safety
    public synchronized void increment() {
        count++;
    }

    public int getCount() {
        return count;
    }
```

```java
}

class IncrementThread extends Thread {
    SharedCounter counter;

    public IncrementThread(SharedCounter counter) {
        this.counter = counter;
    }

    @Override
    public void run() {
        for (int i = 0; i < 100; i++) {
            counter.increment();
        }
    }
}

public class Synchronization_thread {
    public static void main(String[] args) {
        SharedCounter counter = new SharedCounter();
        IncrementThread thread1 = new IncrementThread(counter);
        IncrementThread thread2 = new IncrementThread(counter);

        thread1.start();
        thread2.start();

        // Wait for both threads to finish
        try {
            thread1.join();
            thread2.join();
        } catch (InterruptedException e) {
            System.out.println("Thread interrupted: " + e.getMessage());
        }

        System.out.println("Final Counter Value: " + counter.getCount());
    }
}
```

Output : --

```
PS D:\2MCA\JAVA>  & 'C:\Program Files\Eclipse Adop
ata\Roaming\Code\User\workspaceStorage\3ef78b49fe5
_and_Swings.Synchronization_thread'
Final Counter Value: 200
PS D:\2MCA\JAVA>
```

3. **Swings : --**

```
package Threads_and_Swings;

import javax.swing.*;
import java.awt.*;
import java.awt.event.*;

public class Login extends JFrame implements ActionListener {

    // Now we have to define the buttons Globally to access each of them
outside the constructor also
    // If we declear the JButton Globally then we do not need to mentioned it
Locally
    JButton login, signup, clear;
    JTextField cardTextField;
    JPasswordField pinTextField;

    // Lets Define a Constructor Named Login
    Login(){
        // This is Title
        setTitle("AUTOMATED TELLER MACHINE");

        // This is the layout which is use for the customizations
        setLayout(null);

        // This is the logo
        ImageIcon i1 = new
ImageIcon(ClassLoader.getSystemResource("icons/logo.jpg"));
        Image i2 =
i1.getImage().getScaledInstance(100,100,Image.SCALE_DEFAULT);
        ImageIcon i3 = new ImageIcon(i2);
        JLabel label = new JLabel(i3);
        label.setBounds(70, 10, 100, 100);
        add(label);

        // This is the Text
        JLabel text = new JLabel("Welcome To ATM");
        text.setFont(new Font("Osward", Font.BOLD, 38));
        text.setBounds(200, 40, 400, 40);
        add(text);

        // This is the Card No.
        JLabel cardno = new JLabel("Card No. :");
        cardno.setFont(new Font("Raleway", Font.BOLD, 28));
        cardno.setBounds(120, 150, 150, 30);
        add(cardno);

        // TextBox for the Card No.
```

```
        cardTextField = new JTextField();
        cardTextField.setBounds(300, 150, 230, 30);
        cardTextField.setFont(new Font("Arial", Font.BOLD, 14));
        add(cardTextField);

        // This is the pin
        JLabel pin = new JLabel("Pin :");
        pin.setFont(new Font("Osward", Font.BOLD, 28));
        pin.setBounds(120, 220, 250, 40);
        add(pin);

        // TextBox for the pin
        pinTextField = new JPasswordField();
        pinTextField.setBounds(300, 220, 230, 30);
        pinTextField.setFont(new Font("Arial", Font.BOLD, 14));
        add(pinTextField);

        // Lets Create a Button of Sign In
        login = new JButton("SIGN IN");
        login.setBounds(300, 300, 100, 30);
        login.setBackground(Color.BLACK);
        login.setForeground(Color.WHITE);
        login.addActionListener(this);
        add(login);

        // Lets Create a Button of Clear
        clear = new JButton("CLEAR");
        clear.setBounds(430, 300, 100, 30);
        clear.setBackground(Color.BLACK);
        clear.setForeground(Color.WHITE);
        clear.addActionListener(this);
        add(clear);

        // Lets Create a Button of Sign Up
        signup = new JButton("SIGN UP");
        signup.setBounds(300, 350, 230, 30);
        signup.setBackground(Color.BLACK);
        signup.setForeground(Color.WHITE);
        signup.addActionListener(this);
        add(signup);

        // It is use the change the background color
        getContentPane().setBackground(Color.WHITE);

        // This is use the create a basic frame in which we can design
everything
        setSize(800,480);
        setVisible(true);
```

```
        setLocation(350,200);
    }

    // Abstact Method Override
    // ActionEvent ae is use to define what action you need to perform or on
what component it is performaed
    public void actionPerformed(ActionEvent ae){
        if (ae.getSource() == clear){
            cardTextField.setText("");
            pinTextField.setText("");
        }
    }

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

Output : --