

PRACTICAL:27

AIM: Write a program in Java to demonstrate use of synchronization of threads when multiple threads are trying to update common variable.

PROGRAM:

```
class PrintDemo
{
    public void printcount()
    {
        try
        {
            for(int i=5; i>0;i--)
            {
                System.out.println("Counter --- "+i);
            }
        }
        catch(Exception e)
        {
            System.out.println("Thread interrupted.");
        }
    }
}

class ThreadDemo extends Thread
{
    private Thread t;
    private String threadName;
    PrintDemo PD;

    ThreadDemo(String name,PrintDemo pd)
    {
        threadName=name;
    }
}
```

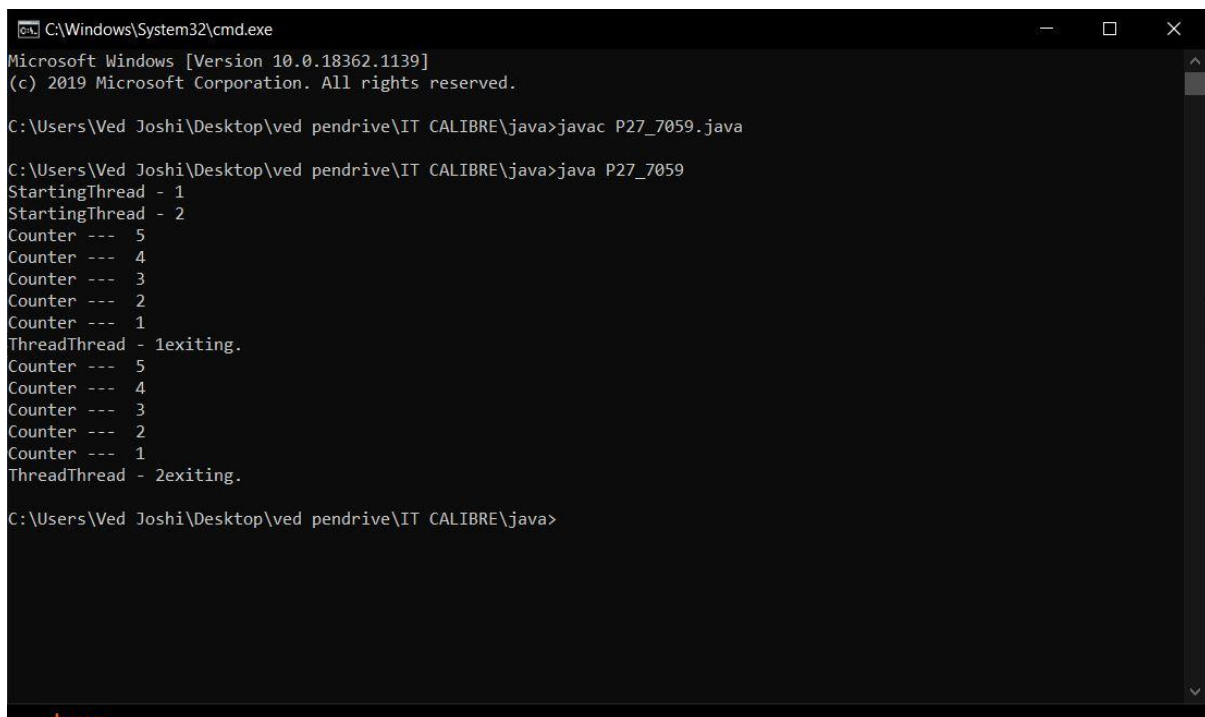
```
        PD=pd;
    }
    public void run()
    {
        synchronized(PD)
        {
            PD.printcount();
        }
        System.out.println("Thread"+threadName+"exiting.");
    }
    public void start()
    {
        System.out.println("Starting"+threadName);
        if(t==null)
        {
            t=new Thread(this,threadName);
            t.start();
        }
    }
}
public class P27_7059
{
    public static void main(String args[])
    {
        PrintDemo PD=new PrintDemo();
        ThreadDemo T1=new ThreadDemo("Thread - 1",PD);
        ThreadDemo T2=new ThreadDemo("Thread - 2",PD);

        T1.start();
        T2.start();
    }
}
```

```
//wait for thread to end

    try
    {
        T1.join();
        T2.join();
    }
    catch(Exception e)
    {
        System.out.println("Interrupted");
    }
}
```

OUTPUT:



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18362.1139]
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C:\Users\Ved Joshi\Desktop\ved pendrive\IT CALIBRE\java>javac P27_7059.java

C:\Users\Ved Joshi\Desktop\ved pendrive\IT CALIBRE\java>java P27_7059
StartingThread - 1
StartingThread - 2
Counter --- 5
Counter --- 4
Counter --- 3
Counter --- 2
Counter --- 1
ThreadThread - 1exiting.
Counter --- 5
Counter --- 4
Counter --- 3
Counter --- 2
Counter --- 1
ThreadThread - 2exiting.

C:\Users\Ved Joshi\Desktop\ved pendrive\IT CALIBRE\java>
```