EXPERIMENT NO. 12

Date: 26/09/2023
Roll No.: BD37

AIM:
To achieve synchronisation among multiple threads.

THEORY:
Synchronisation:
Synchronisation is used to control the access of multiple threads to shared resources, preventing data inconsistencies and conflicts that might occur when multiple threads access the same resource simultaneously.

Syntax:
```
public synchronized void Synchronized_Method()
{
    // Synchronized code block
}
```

PROGRAM 1:

```
class Counter
{
    int count;
    public synchronized void increment()
    {
        count++;
    }
}
```

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```
public class Sync
{
  public static void main (String args[])
  {
    Counter c = new Counter();
    Thread t1 = new Thread(new Runnable()

    {
      public void run()
      {
        for(int i=0; i<1000; i++)
        {
          c.increment();
        }
      }
    });
    Thread t2 = new Thread(
          new Runnable()
          {
            public void run()
            {
              for(int i=0; i<1000; i++)
              {
                c.increment();
              }
            }
          });
```

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```
        t1.start();
        t2.start();
        t1.join(); // join() waits for the completion of
        t2.join();          thread.
        System.out.println("Count " + c.count);
    }
}
```

PROCEDURE:

Step 1: Start
Step 2: Open Notepad
Step 3: Write the code
Step 4: Compile the code in command prompt
Step 5: Run the code in command prompt
Step 6: Check the output
Step 7: End

CONCLUSION:

Hence, we have achieved synchronization among multiple threads.

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