following java program -

1. Using Synchronized Method

```
class Test
{
 synchronized void display(int num)
 {
      System.out.println("\nTable for "+num);
      for(int i=1;i<=10;i++)
      {
            System.out.print(" "+num*i);
      }
      System.out.print("\nEnd of Table");
      try
      {
      Thread.sleep(1000);
```

This is a synchronized method

```
    }catch(Exception e){}

}
class A extends Thread
{
    Test th1;
    A(Test t)
    {
        th1=t;
    }
    public void run()
    {
        th1.display(2);
    }

}
class B extends Thread
{
    Test th2;
    B(Test t)
    {
        th2=t;
    }
    public void run()
    {
        th2.display(100);
    }

}
class MySynThread
{
    public static void main(String args[])
    {
        Test obj=new Test();
        A t1=new A(obj);
        B t2=new B(obj);
        t1.start();
        t2.start();
    }
}
```

Output

manner.

2. Using Synchronized Block

- When we want to achieve synchronization using the synchronized block then create a block of code and mark it as **synchronized**.
- Synchronized statements must specify the object that provides the intrinsic lock.

Syntax

The syntax for using the synchronized block is -

```
synchronized(object reference )
{
statement;
statement;   //block of code to be synchronized
.
.
.
}
```

Java Program

```
class Test
{
   void display(int num)
   {
      synchronized(this)
      {
         System.out.println("\nTable for "+num);
         for(int i=1;i<=10;i++)
         {
            System.out.print(" "+num*i);
         }
         System.out.print("\nEnd of Table");
         try
         {
            Thread.sleep(1000);
         }catch(Exception e){}
   }
```

This is a synchronized Block

```
  }
}
class A extends Thread
{
  Test th1;
  A(Test t)
  {
    th1=t;
  }
  public void run()
  {
    th1.display(2);
  }
}
class B extends Thread
{
  Test th2;
  B(Test t)
  {
    th2=t;
  }
  public void run()
  {
    th2.display(100);
  }
}
class MySynThreadBlock
{
  public static void main(String args[])
  {
    Test obj=new Test();
    A t1=new A(obj);
    B t2=new B(obj);
    t1.start();
    t2.start();
  }
}
```

Output