实验六 Java 多线程设计

1. 实验目的:

掌握线程的概念, 学会用两种方法进行多线程的设计。

- 2. 实验内容:
- (1) 用继承 Thread 类的方法进行多线程设计。两个线程为计算和显示质数。

```
package sy61;
class primeThread extends Thread
     public void run()
    {
          int num=3;
          boolean flag=true;
          System.out.println(2);
          while(true)
          { loop:
                   for(int i=2;i<num;i++)
                        if((num%i)==0)
                        {
                             flag=false;
                          break loop;
                        }
                   }
          if(flag)
          {System.out.println(num);
          flag=false;
          num++;
          flag=true;
          try{Thread.sleep(1000);}
          catch(InterruptedException e){return;}
    }
}
class runPrime
{
     public static void main(String args[])
     primeThread getPrime=new primeThread();
     getPrime.start();
     while(getPrime.isAlive())
          {System.out.println("Counting the prime number..");
          try{Thread.sleep(1000);}
          catch(InterruptedException e){return;}
```

```
}
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     package sy61;
     class primeThread extends Thread
         public void run()
              int number=3;
             boolean flag=true;
              System.out.println(2);
              while (true)
              { loop:
                      for(int i=2;i<number;i++)</pre>
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  <terminated> runPrime [Java Application] C:\MyEclipse8.0\Tool\binary\com.sun.java.jdk.w
 Counting the prime number..
 Counting the prime number..
 Counting the prime number..
 Counting the prime number ..
  Counting the prime number..
 13
 Counting the prime number..
  Counting the prime number
```

}

(2) 用 Runnable 接口的方法进行多线程设计。线程的功能为输出如下图形:

```
* *

* * *

package sy62;

class code implements Runnable

{

public void run()

{

int i,j;

for(i=0;i<4;i++)

{

for(j=0;j<i+1;j++)
```

```
System.out.print("*");
                                                                  }
                                                                  System.out.print("\n");
                                                 }
                                                  try{Thread.sleep(1000);}
                                                  catch(InterruptedException e){return;}
                                }
               }
                class run_code
                                 public static void main(String args[])
                                                  code m=new code();
                                                 Thread t=new Thread(m);
                                                 t.start();
                                                  while(t.isAlive())
                                                  {
                                                                  try{Thread.sleep(1000);}
                                                                  catch(InterruptedException e){return;}
                                                 }
                                }
               }
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                                                                                                         □ਙ▽
                                               package sy62;
                                                             class code implements Runnable
                                                                          public void run()
                                                                                       int i,j;
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                                                                                                    for(j=0;j<i+1;j++)
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                                                                                       code m=new code();
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                                     <terminated> run_code [Java Application] C:\MyEclipse8.0\Tool\binary\com.sun.java.jdk.win32.x86_1.6
                                     ****
```