Applet: `CounterApplet.html`

Invoke this with `appletviewer CounterApplet.html`

```
<APPLET CODE=CounterApplet.class
        CODEBASE=./
        WIDTH=500 HEIGHT=20>
</APPLET>
```


Skeleton: `CounterApplet.java`

```
import java.applet.*; import java.awt.*; import java.awt.event.*;

public class CounterApplet extends Applet implements Runnable
{
   int count = 0;
   Thread myThread;

   public void init() {...}
   public void start() {...}
   public void stop() {...}
   public void run() {...}
   public void paint(Graphics g) {...}

   private class ClickListener extends MouseAdapter {...}
}
```


Applet: overriding `init()`, ...

```
public void init()
{
   addMouseListener(new ClickListener());
   myThread = null;
   count = 0;
}

public void start()
{
   myThread = new Thread(this,"CounterApplet");
   myThread.start();
}

public void stop()
{
   myThread.stop();
   myThread = null;
}
```


Applet: threading with `run()`

```
public void run()
{
   while (Thread.currentThread() == myThread)
   {
      count ++;
      repaint();
      try
      {
         myThread.sleep(100);
      }
      catch (InterruptedException e)
      {
         System.err.println("Caught Interrupt.");
         System.exit(-1);
      }
   }
}
```

Applet: overriding paint()

```java
public void paint(Graphics g)
{
   g.setColor(new Color((count * 10) % 256, 128, 0));

   // display counter.
   g.drawString(Integer.toString(count),5,15);
}
```


ClickListener inner class

```java
// we will toggle start/stop.
private class ClickListener extends MouseAdapter
{
   public void mouseClicked(MouseEvent e)
   {
      if (myThread==null)
         start();
      else
         stop();
   }
}
```


Skeleton: CounterFrame.java

```java
import java.awt.*; import java.awt.event.*;

public class CounterFrame extends Frame implements Runnable
{
   int count = 0;   Thread myThread;

   public CounterFrame() {...}
   public void start() {...}
   public void stop() {...}
   public void run() {...}
   public void paint(Graphics g) {...}
   public static void main(String [] args) {...}

   private class ClickListener extends MouseAdapter {...}
}
```


Frame: CounterFrame() and main()

```java
   public CounterFrame()
   {
      addMouseListener(new ClickListener());
      myThread = null;
      count = 0;
   }

   public static void main(String [] args)
   {
      CounterFrame cf = new CounterFrame();

      cf.setSize(400,50);

      cf.show();
   }
```

Frame: start() & stop()

```
public void start()
{
   myThread = new Thread(this,"CounterFrame");
   myThread.start();
}

public void stop()
{
   myThread.stop();
   myThread = null;
}
```


Frame: threading with run()

```
public void run()
{
   while (Thread.currentThread() == myThread)
   {
      count ++;
      repaint();
      try
      {
         myThread.sleep(100);
      }
      catch (InterruptedException e)
      {
         System.err.println("Caught Interrupt.");
         System.exit(-1);
      }
   }
}
```


Frame: overriding paint()

```
public void paint(Graphics g)
{
   g.setColor(new Color((count * 10) % 256, 128, 0));

   // display counter.
   g.drawString(Integer.toString(count),10,40);
}
```