```
////////////////////////////////////////////////////////////////////////////
//                                                                        //
//    The following program tests to see if my ascending and merge method    //
//                              works correctly.                          //
//                                                                        //
//                           WRITTEN BY:                                  //
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//                                                                        //
////////////////////////////////////////////////////////////////////////////

/////////////////////////////////////////////////////////////////
// Driver for CS 141, Spring 2001, Homework 9
/////////////////////////////////////////////////////////////////
import java.io.*;
/////////////////////////////////////////////////////////////////
class Hw09
{
//-----------------------------------------------------------------
   public static void main (String [] args ) throws Exception
   {
      String empty = "";
      String s0 = "0";
      String s2 = "2";
      String s3 = "3";
      String s5 = "5";
      String sab = "ab";
      String sba = "ba";
      String sabbc = "abbc";
      String s124 = "124";
      String s037 = "037";

      test1(empty,true);
      test1(s0,true);
      test1(sab,true);
      test1(sba,false);
      test1(sabbc,true);

      test2(empty,empty,empty);
      test2(empty,s0,s0);
      test2(s0,empty,s0);
      test2(s124,empty,"124");
      test2(empty,s124,"124");
      test2(s124,s0,"0124");
      test2(s0,s124,"0124");
      test2(s124,s3,"1234");
      test2(s3,s124,"1234");
      test2(s124,s5,"1245");
      test2(s5,s124,"1245");
      test2(s2,s124,"1224");
      test2(s124,s2,"1224");
      test2(s124,s037,"012347");
      test2(s037,s124,"012347");
   }

   //-----------------------------------------------------------------
   //  Returns a true if the string of characters is ascending else
   //  it will return a false.
   //-----------------------------------------------------------------
   public static boolean isAscending(String s)
   {
      int counter = 1;
      boolean status =  true;

      while (counter <= s.length() - 1)
      {
         if (s.length() <= 1)
            status = true;
         else
         {
            if (s.charAt(counter - 1) <= s.charAt(counter))
               status = true;
            else
               status = false;

         }
         counter++;
      }

      return status;
```

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   }

   //-----------------------------------------------------------------
   //  The merge method takes in two strings and puts them in a
   //  string in ascending order.
   //-----------------------------------------------------------------
   public static String merge(String s1, String s2)
   {
      String s3 = "", temp = "";
      int place = 0, counter = 0;

      while ((s1.length() != 0) && (s2.length() != 0))
      {
         if (s1.charAt(place) <= s2.charAt(place))
         {
            s3 += s1.charAt(place);

            temp = s1;
            s1 = "";

            while (counter < (temp.length() - 1))
            {
               s1 += temp.charAt(counter+1);
               counter++;
            }

            counter = 0;
            temp = "";
         }
         else
         {
            if (s1.charAt(place) > s2.charAt(place))
            {
               s3 += s2.charAt(place);

               temp = s2;
               s2 = "";

               while (counter < (temp.length() - 1))
               {
                  s2 += temp.charAt(counter+1);
                  counter++;
               }

               counter = 0;
               temp = "";
            }
         }
      }

      if (s1.length() > 0)
         s3 += s1;

      if (s2.length() > 0)
         s3 += s2;

      return s3;

   }

//-----------------------------------------------------------------
//
// Tests the boolean isAscending(String) method
//
   private static void test1 ( String s, boolean shouldBe )
   {
      boolean is = isAscending(s);
      String match;
      if ( is == shouldBe ) match = "ok";
      else                  match = "!!! WRONG !!!";
      System.out.println("\nisAscending(\"" +
                         s +
                         "\") should be " +
                         shouldBe +
                         " is " +
                         is +
                         " -- " +
                         match);
   }
```

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//-------------------------------------------------------------
//
// Tests the String merge(String,String) method
//
   private static void test2 ( String s1, String s2, String shouldBe )
   {
      String is = merge(s1,s2);
      String match;
      if ( is.equals(shouldBe) ) match = "ok";
      else                  match = "!!! WRONG !!!";
      System.out.println("\nmerge(\"" +
                         s1 +
                         "\",\"" +
                         s2 +
                         "\") should be \"" +
                         shouldBe +
                         "\" is \"" +
                         is +
                         "\" -- " +
                         match);
   }
//-------------------------------------------------------------
} //end class Hw09
////////////////////////////////////////////////////////////////
```