1. The textfiles boynames.txt and girlnames.txt, which are included, contain a list of the 1000 most popular boy and girl names in the United States for the year 2003 as compiled by the Social Security Administration.

   These are blank-delimited files where the most popular name is listed first, the second most popular name is listed second, and so on, to the 1000th most popular name, which listed last. Each line consists of the first name followed by a blank space and then the number of registered births using that name in the year. For example the girlnames.txt file begins with:

   Emily 25494
   Emma 22532
   Madison 19986

   This indicates that Emily was the most popular name with 25494 registered naming, Emma was the second most popular with 22532, and Madison was the third most popular with 19986.

   Write a program that reads both the girl's and boy's files. Then allow the user to input a name. The program should search through both files. If there is a match, then it should output the popularity ranking and the number of naming. The program should also indicate if there is no match.

   For example, if the user enters the name "Justice", then the program should output:

   Justice is ranked 456 in popularity among girls with 655 namings.
   Justice is ranked 401 in popularity among boys with 653 namings.

   If the user enters the name "Walter", then the program should output:

   Walter is not ranked among the top 1000 girl names.
   Walter is ranked 356 in popularity among boys with 775 namings.

2. Write a program that compares two files and prints information about the differences between them. For example, consider a file data1.txt with the following contents:

   This file has a great deal of
   text in it which needs to

   be processed.

   Consider another file data2.txt that exists with the following contents:

   This file has a grate deal of
   text in it which needs to

   bee processed.

A dialogue with the user running your program might look like the following:

```
Enter a first file name: data1.txt
Enter a second file name: data2.txt

Differences found:
Line 1:
< This file has a great deal of
> This file has a grate deal of

Line 4:
< be processed.
> bee procesed.
```

3. Write a program that will search a text file of strings representing numbers of type int and will write the largest and the smallest numbers to the screen. The file contains nothing but strings representing numbers of type int, one per line.

4. Write a program that takes its input from a text file of strings representing numbers of type double and outputs the average of the numbers in the file to the screen. The file contains nothing but strings representing numbers of type double, one per line.

5. Write a program that takes its input from a text file of strings representing numbers of type double. The program outputs to the screen the average and standard deviation of the numbers in the file. The file contains nothing but strings representing numbers of type double, one per line. The standard deviation of a list of numbers n_1, n_2, n_3 and so forth is defined as the square root of the average of the following numbers:

   $(n_1 - a)^2$, $(n_2 - a)^2$, $(n_3 - a)^2$, and so forth

   The number a is the average of the numbers n1, n2, n3 and so forth.

   Hint: Write your program so that it first reads the entire file and computes the average of all the numbers, then closes the file, then reopens the file and computes the standard deviation. You will find it helpful to first do Question 4 and then modify that program to obtain the program for this question.