CS23021 Computer Science I
Project #2
Due via e-mail by 11:59pm on Wednesday, September 27, 2006

Preliminaries

Write a program that inputs multiple lines of integer numbers and outputs them in an HTML table. The negative numbers should be output in red color. The numbers should be printed 3 in a row, one number per column. The fourth column should contain the sum of the numbers in the row. If the sum is negative it should be output in red. Input stops when 0 (zero) is entered. Zero should **not** be output. Empty cells should be output to complete the table if necessary. The last row should contain the sum of all numbers in each respective column and the total of all numbers. An example table is provided. As a starting point you can use the example program that just inputs the numbers and outputs them without change.

HTML (HyperText Markup Language) is the language that is used in writing web-pages. The language consists of formatting elements called HTML tags. HTML table starts with <table> tag and ends with </table> tag. The information in the table in entered by rows. Every table row starts with <tr> and ends with </tr>. The rows are divided into table cells. Every cell starts with <td> and ends with </td>. Information entered in the table cell is formatted and displayed. The color with which numbers are output is controlled by and tag pair. For example, hello, world displays "hello, world" in red color in a browser. More on HTML can be found at the following location:
http://www.mcs.kent.edu/system/web_help/index.html

An example table stored in file example.html which is supplied with the project assignment. You can view this file in a browser by clicking on it. While working on your own tables you can always view them in a browser by downloading them to your computer and opening them in the browser (Netscape) by selecting "File" →"Open" from the pull-down menu of your browser.

The program should receive the input from standard input and outputs to standard output. Both can be *redirected*. For example, command:

```
prompt% table < inputfile > table.html
```

makes program table input from file inputfile and then all the output of table is stored in file table.html This file can be viewed in a browser. Note, that if you are using gdb to debug your program you can use the debugger's run command to redirect your input/output:

```
(gdb) run < inputfile > table.html
```

Assignment

Check out the project files form http://classes.cs.kent.edu/svn/cs23021/cs23021_shared//Project2/
File exampleinput contains an example input file that the program processes. Note, that your program has to work on **any** line of numbers not only on the numbers specified in exampleinput. Test your program with different input integer sequences.Write a C++ program table.cpp such that it outputs the numbers input in an HTML table three numbers in a row. You can use the provided example.cpp program as a starting point. Note, that example.cpp is nothing but a working template and you have to significantly add and modify its behavior. The negative numbers should be output in red color. You are **not** allowed to use functions or arrays (material that we have not studied). You are only allowed to use branching and looping constructs as the control operators.

Make sure that your modified program contains comments and otherwise adheres to good program style. The link to programming style guide is available on the course's webpage. Your grade will be lowered if your do not follow the programming style guidelines outlined there.