CS 150 Lab 5

Logical Expressions and If Statements

Objectives

For this lab, you are to write your own program that solves the following problem. You will need to use selection structures and logical operators. Create a new Visual Studio Project that will contain your source code. You should save this project as '05LeapXXXXXXXX', where XXXXXXXX is your PUNet ID.

Problem statement

For an inputted year, your program must print out whether it is a leap year or not. Here are the rules:

A year is a leap year if it is divisible by 4. The only exception to this is if it is a century year; then it is a leap year only if it is divisible by 400.

In case you're wondering, these are the rules for the Gregorian calendar, which began to be adopted in 1582 when they realized that having a leap year every 4 years resulted in the days of the year being very off after a several centuries. (The actual length of a year is 365.24219 days, not an even 365.25 days). It's amazing what information you can find on the Internet if you look!

If the user enters a negative number for the year, then you should output that it is invalid and quit the program.

Sample output

```
*****************************************
*              Leap Years               *
*****************************************

Enter a year: 1900
1900 is not a leap year
```

Testing your project

You should test your project on the following values:

1900 (not a leap year)
1960 (a leap year)
1989 (not a leap year)
2000 (a leap year)
-50 (invalid input)

Before submitting your final project, show that your program works by demonstrating it to the instructor or TA.

Submitting your finished project

Once you have completed your lab projects, you will need to submit it for grading. You will submit your projects to the 'CS150-01 Lab' folder on Turing. You may only submit your projects once, so make sure that they are in their final form. Also, make sure that you submit the correct project. Be sure to close Visual Studio before copying and moving your folder.

To submit the project, copy (do not move) the folder you created on the Desktop, '05LeapXXXXXXXX', to the directory Turing\Students\CS150-01 Lab.

To save a copy of your project for yourself, move the folder you created on the Desktop to Turing\Students\XXXXXXXX, where XXXXXXXX is your PUNet ID.

Be sure to close Visual Studio before attempting to copy this folder.

If you do not have time to finish these assignments in Lab, continue working on them outside of class and submit them by 10am on Thursday, September 28, 2006.