<u>**CS11 Programming Assignment # 3 due Thursday 7 Oct. 1999**</u>

Time Zones

In this assignment you will write a C++ program that asks the user to enter the current time in Greenville, and then prints the simultaneous times in Honolulu and Adelaide.

The purpose of this assignment is to introduce you to using **if** and **if-else** statements. This program also features simple I/O and performs some straightforward numerical calculations.

Guidelines:

1. When you ask for the time in Greenville, you should do so in three stages. Ask for the hour, the minute and whether it is am or pm. This will make the input procedure easier than trying to parse a string such as "12:15 pm". You may assume that the user will enter legitimate input.
2. Assume that the time in Honolulu is 6 hours behind Greenville, and that the time in Adelaide is 13½ hours ahead of Greenville.
3. Try to make your output match mine as much as is feasible. When you print the times in the two cities, note that the time in Honolulu may refer to the previous day, and the time in Adelaide may refer to the next day. The program should print "yesterday" or "tomorrow" as appropriate. See the examples below. Please do *not* print "today" if the time you are printing is on the same day.
4. Your program must have (at least) two functions other than main():
   a. A function that gets the time in Greenville from the user. Note that you will probably need to use reference parameters to communicate the current hour, minute and am/pm back to the main() function.
   b. A function that takes as parameters both the time in Greenville and the amount of time to add or subtract to obtain the time in some other city. This function will be called twice: once for Honolulu and once for Adelaide. This function should not print any output. Instead, the output should be done either in main() or in some other function.

Two Example Executions:

```
**********************************************
*       Welcome to the Time Zone Program      *
**********************************************

What time is it in Greenville?
Please enter the hour (1-12):  4
Please enter minute (00-59) :  20
Enter 'a' for am or 'p' for pm:  a

The time in Honolulu is 10:20 pm yesterday.
The time in Adelaide is 5:50 pm.
```

```
************************************************
*        Welcome to the Time Zone Program       *
************************************************

What time is it in Greenville?
Please enter the hour (1-12):  7
Please enter minute (00-59) :  15
Enter 'a' for am or 'p' for pm:  p

The time in Honolulu is 1:15 pm.
The time in Adelaide is 8:45 am tomorrow.
```