124 Chapter 6 Loops

10. Programming Project 9 in Chapter 5 asked you to write a program that determines which of two dates comes earlier on the calendar. Generalize the program so that the user may enter any number of dates. The user will enter 0/0/0 to indicate that no more dates will be entered:

```
Enter a date (mm/dd/yy): \frac{3/6/08}{5/17/07}
Enter a date (mm/dd/yy): \frac{5/17/07}{6/3/07}
Enter a date (mm/dd/yy): \frac{6/3/07}{0/0/0}
Enter a date (mm/dd/yy): \frac{0}{0/0}
```

11. The value of the mathematical constant e can be expressed as an infinite series:

```
e = 1 + 1/1! + 1/2! + 1/3! + \dots
```

Write a program that approximates e by computing the value of

$$1 + 1/1! + 1/2! + 1/3! + ... + 1/n!$$

where n is an integer entered by the user.

12. Modify Programming Project 11 so that the program continues adding terms until the current term becomes less than ε , where ε is a small (floating-point) number entered by the user.