

3. Write a program that asks the user to enter a fraction, then reduces the fraction to lowest terms:

```
Enter a fraction: 6/12
In lowest terms: 1/2
```

*Hint:* To reduce a fraction to lowest terms, first compute the GCD of the numerator and denominator. Then divide both the numerator and denominator by the GCD.

- W 4. Add a loop to the `broker.c` program of Section 5.2 so that the user can enter more than one trade and the program will calculate the commission on each. The program should terminate when the user enters 0 as the trade value:

```
Enter value of trade: 30000
Commission: $166.00
```

```
Enter value of trade: 20000
Commission: $144.00
```

```
Enter value of trade: 0
```

5. Programming Project 1 in Chapter 4 asked you to write a program that displays a two-digit number with its digits reversed. Generalize the program so that the number can have one, two, three, or more digits. *Hint:* Use a `do` loop that repeatedly divides the number by 10, stopping when it reaches 0.

- W 6. Write a program that prompts the user to enter a number  $n$ , then prints all even squares between 1 and  $n$ . For example, if the user enters 100, the program should print the following:

```
4
16
36
64
100
```

7. Rearrange the `square3.c` program so that the `for` loop initializes  $i$ , tests  $i$ , and increments  $i$ . Don't rewrite the program; in particular, don't use any multiplications.

- W 8. Write a program that prints a one-month calendar. The user specifies the number of days in the month and the day of the week on which the month begins:

```
Enter number of days in month: 31
Enter starting day of the week (1=Sun, 7=Sat): 3
```

```

      1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31
```

*Hint:* This program isn't as hard as it looks. The most important part is a `for` statement that uses a variable  $i$  to count from 1 to  $n$ , where  $n$  is the number of days in the month, printing each value of  $i$ . Inside the loop, an `if` statement tests whether  $i$  is the last day in a week; if so, it prints a new-line character.

9. Programming Project 8 in Chapter 2 asked you to write a program that calculates the remaining balance on a loan after the first, second, and third monthly payments. Modify the program so that it also asks the user to enter the number of payments and then displays the balance remaining after each of these payments.