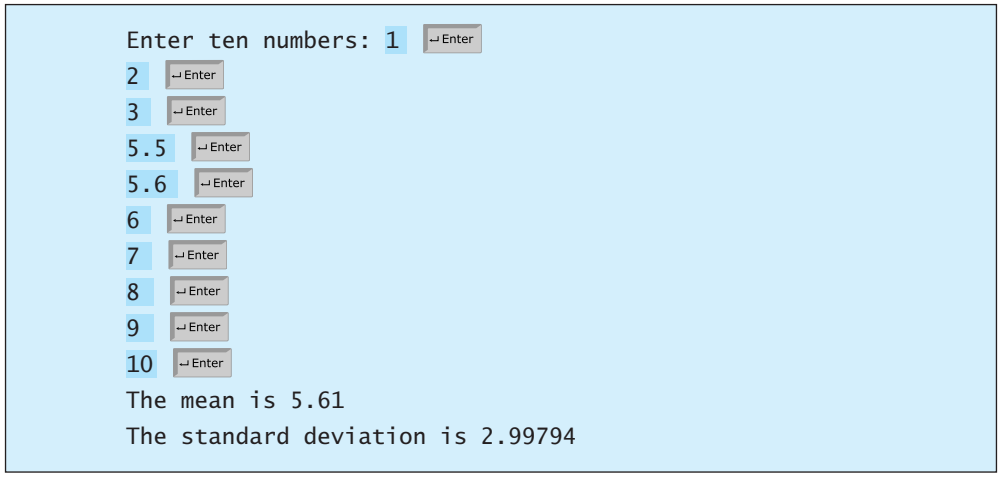
**5.45 (*Decimal to hex*) Write a program that prompts the user to enter a decimal integer and displays its corresponding hexadecimal value.

**5.46 (*Statistics: compute mean and standard deviation*) In business applications, you are often asked to compute the mean and standard deviation of data. The mean is simply the average of the numbers. The standard deviation is a statistic that tells you how tightly all the various data are clustered around the mean in a set of data. For example, what is the average age of the students in a class? How close are the ages? If all the students are the same age, the deviation is 0. Write a program that prompts the user to enter ten numbers, and displays the mean and standard deviations of these numbers using the following formula:

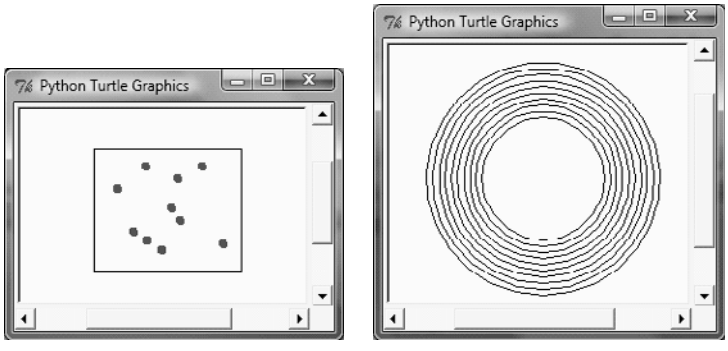
$$mean = \frac{\sum_{i=1}^{n} x_i}{n} = \frac{x_1 + x_2 + \ldots + x_n}{n} \qquad deviation = \sqrt{\frac{\sum_{i=1}^{n} x_i^2 - \frac{\left(\sum_{i=1}^{n} x_i\right)^2}{n}}{n-1}}$$

Here is a sample run:



```
Enter ten numbers: 1 Enter
2 Enter
3 Enter
5.5 Enter
5.6 Enter
6 Enter
7 Enter
8 Enter
9 Enter
10 Enter
The mean is 5.61
The standard deviation is 2.99794
```

**5.47 (*Turtle: draw random balls*) Write a program that displays 10 random balls in a rectangle with width 120 and height 100, centered at (0, 0), as shown in Figure 5.3a.



(a) (b)

FIGURE 5.3 The program draws 10 random balls in (a), and 10 circles in (b).