8. What conversion specification would you use to print each of the following?
   a. A decimal integer having a minimum of four digits in a field width of 6
   b. An octal integer in a field whose width will be given in the argument list
   c. A character in a field width of 2
   d. A floating-point number in the form +3.13 in a field width equal to the number of characters in the number
   e. The first five characters in a string left-justified in a field of width 7

9. For each of the following input lines, provide a `scanf()` statement to read it. Also declare any variables or arrays used in the statement.
   a. 101
   b. 22.32 8.34E–09
   c. linguini
   d. catch 22
   e. catch 22 (but skip over catch)

10. What is whitespace?

11. What's wrong with the following statement and how can you fix it?

```
printf("The double type is %z bytes..\n", sizeof (double));
```

12. Suppose that you would rather use parentheses than braces in your programs. How well would the following work?

```
#define ( {
#define ) }
```

Programming Exercises

1. Write a program that asks for your first name, your last name, and then prints the names in the format *last, first*.

2. Write a program that requests your first name and does the following with it:
   a. Prints it enclosed in double quotation marks
   b. Prints it in a field 20 characters wide, with the whole field in quotes and the name at the right end of the field

   c. Prints it at the left end of a field 20 characters wide, with the whole field enclosed in quotes

   d. Prints it in a field three characters wider than the name

3. Write a program that reads in a floating-point number and prints it first in decimal-point notation and then in exponential notation. Have the output use the following formats (the number of digits shown in the exponent may be different for your system):

   a. The input is `21.3` or `2.1e+001`.

   b. The input is `+21.290` or `2.129E+001`.

4. Write a program that requests your height in inches and your name, and then displays the information in the following form:

   ```
   Dabney, you are 6.208 feet tall
   ```

   Use type `float`, and use `/` for division. If you prefer, request the height in centimeters and display it in meters.

5. Write a program that requests the download speed in megabits per second (Mbs) and the size of a file in megabytes (MB). The program should calculate the download time for the file. Note that in this context one byte is eight bits. Use type `float`, and use `/` for division. The program should report all three values (download speed, file size, and download time) showing two digits to the right of the decimal point, as in the following:

   ```
   At 18.12 megabits per second, a file of 2.20 megabytes
   downloads in 0.97 seconds.
   ```

6. Write a program that requests the user's first name and then the user's last name. Have it print the entered names on one line and the number of letters in each name on the following line. Align each letter count with the end of the corresponding name, as in the following:

   ```
   Melissa Honeybee
         7        8
   ```

   Next, have it print the same information, but with the counts aligned with the beginning of each name.

   ```
   Melissa Honeybee
   7       8
   ```

7. Write a program that sets a type `double` variable to 1.0/3.0 and a type `float` variable to 1.0/3.0. Display each result three times—once showing four digits to the right of the decimal, once showing 12 digits to the right of the decimal, and once showing 16 digits