E X E R C I S E S

1. If you have access to a computer facility that supports the C programm
language, type in and run the five programs presented in this chap
Compare the output produced by each program with the output presen
after each program.

2. Which of the following are invalid variable names? Why?

```
Int              char              6_05

_calloc          Xx                alpha_beta_routine

floating         _1312             z

ReInitialize     ___              A$
```

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3. Which of the following are invalid constants. Why?

```
123.456          0x10.5            OX0G1

0001             0xFFFF            123L

0Xab05           OL                -597.25

123.5e2          .0001             +12.5

0996             -12E-12           07777
```

4. Write a program that converts 27° from degrees Fahrenheit (F) to degrees
Celsius (C) using the formula

$$C = (F - 32)/1.8$$

5. What output would you expect from the following program?

```
main ()
{
    char  c, d;

    c = 'd';
    d = c;
    printf ("d = %c\n", d);
}
```

6. Write a program to evaluate the polynomial

$$3x^3 - 5x^2 + 6$$

for $x = 2.55$.

7. Write a program that evaluates the following expression and displays the result. (Remember to use exponential format to display the result.)

$$(3.31 \times 10^{-8} + 2.10 \times 10^{-7}) / (7.16 \times 10^6 + 2.01 \times 10^8)$$

8. To round off an integer i to the next largest even multiple of another integer j, the following formula can be used:

$$\text{Next\_multiple} = i + j - i \% j$$

For example, to round off 256 days to the next largest number of days evenly divisible by a week, values of $i = 256$ and $j = 7$ can be substituted into the above formula as follows.

$$
\begin{aligned}
\text{Next\_multiple} &= 256 + 7 - 256 \% 7 \\
&= 256 + 7 - 4 \\
&= 259
\end{aligned}
$$

Write a program to find the next largest even multiple for the following values of i and j.

i	j
365	7
12,258	23
996	4