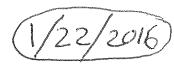7. Why are the relational operators called relational?

8. Why do most programmers indent the conditionally executed statements in a decision structure?
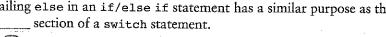
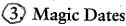**Fill-in-the-Blank**

9. An expression using the greater-than, less-than, greater-than-or-equal to, less-than-or-equal-to, equal, or not-equal to operator is called a(n) _____ expression.
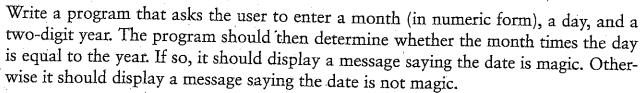
10. A relational expression is either _____ or _____.

11. The value of a relational expression is 0 if the expression is _____ or 1 if the expression is _____.

12. The `if` statement regards an expression with the value 0 as _____.

13. The `if` statement regards an expression with a nonzero value as _____.

14. For an `if` statement to conditionally execute a group of statements, the statements must be enclosed in a set of _____.

15. In an `if`/`else` statement, the `if` part executes its statement or block if the expression is _____, and the `else` part executes its statement or block if the expression is _____.

16. The trailing `else` in an `if`/`else if` statement has a similar purpose as the _____ section of a `switch` statement.

③ Magic Dates

The date June 10, 1960 is special because when we write it in the following format, the month times the day equals the year.

6/10/60

Write a program that asks the user to enter a month (in numeric form), a day, and a two-digit year. The program should then determine whether the month times the day is equal to the year. If so, it should display a message saying the date is magic. Otherwise it should display a message saying the date is not magic.

④ Areas of Rectangles

The area of a rectangle is the rectangle's length times its width. Write a program that asks for the length and width of two rectangles. The program should tell the user which rectangle has the greater area, or if the areas are the same.

⑤ Body Mass Index

Write a program that calculates and displays a person's body mass index (BMI). The BMI is often used to determine whether a person with a sedentary lifestyle is overweight or underweight for his or her height. A person's BMI is calculated with the following formula:

$$BMI = weight \times 703 / height^2$$

where *weight* is measured in pounds and *height* is measured in inches. The program should display a message indicating whether the person has optimal weight, is underweight, or is overweight. A sedentary person's weight is considered to be optimal if his or her BMI is between 18.5 and 25. If the BMI is less than 18.5, the person is considered to be underweight. If the BMI value is greater than 25, the person is considered to be overweight.