



Special Topic 5.1

The Conditional Operator

Java has a conditional operator of the form

$$\text{condition} ? \text{value}_1 : \text{value}_2$$

The value of that expression is either *value*₁ if the condition is true or *value*₂ if it is false. For example, we can compute the absolute value as

$$y = x \geq 0 ? x : -x;$$

which is a convenient shorthand for

$$\text{if } (x \geq 0) \ y = x; \text{ else } y = -x;$$

The conditional operator is similar to the if/else statement, but it works on a different syntactical level. The conditional operator combines *values* and yields another value. The if/else statement combines *statements* and yields another statement.

For example, it would be an error to write

$$y = \text{if } (x > 0) \ x; \text{ else } -x; \ // \ \text{Error}$$

The if/else construct is a statement, not a value, and you cannot assign it to a variable.

We don't use the conditional operator in this book, but it is a convenient and legitimate construct that you will find in many Java programs.
