

# PASCAL - BOOLEAN OPERATORS

Following table shows all the Boolean operators supported by Pascal language. All these operators work on Boolean operands and produce Boolean results. Assume variable **A** holds true and variable **B** holds false, then –

Operator	Description	Example
and	Called Boolean AND operator. If both the operands are true, then condition becomes true.	$A \text{ and } B$ is false.
and then	It is similar to the AND operator, however, it guarantees the order in which the compiler evaluates the logical expression. Left to right and the right operands are evaluated only when necessary.	$A \text{ and then } B$ is false.
or	Called Boolean OR Operator. If any of the two operands is true, then condition becomes true.	$A \text{ or } B$ is true.
or else	It is similar to Boolean OR, however, it guarantees the order in which the compiler evaluates the logical expression. Left to right and the right operands are evaluated only when necessary.	$A \text{ or else } B$ is true.
not	Called Boolean NOT Operator. Used to reverse the logical state of its operand. If a condition is true, then Logical NOT operator will make it false.	not $A \text{ and } B$ is true.

The following example illustrates the concept –

```
program beLogical;
var
a, b: boolean;

begin
  a := true;
  b := false;

  if (a and b) then
    writeln('Line 1 - Condition is true')
  else
    writeln('Line 1 - Condition is not true');
  if (a or b) then
    writeln('Line 2 - Condition is true');

  (* lets change the value of a and b *)
  a := false;
  b := true;

  if (a and b) then
    writeln('Line 3 - Condition is true')
  else
    writeln('Line 3 - Condition is not true');

  if not (a and b) then
    writeln('Line 4 - Condition is true');
end.
```

When the above code is compiled and executed, it produces the following result –

```
Line 1 - Condition is not true
Line 2 - Condition is true
Line 3 - Condition is not true
Line 4 - Condition is true
```

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