

# PASCAL - IF THEN ELSE STATEMENT

[http://www.tutorialspoint.com/pascal/pascal\\_if\\_then\\_else\\_statement.htm](http://www.tutorialspoint.com/pascal/pascal_if_then_else_statement.htm)

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An **if-then** statement can be followed by an optional **else** statement, which executes when the Boolean expression is **false**.

## Syntax

Syntax for the if-then-else statement is –

```
if condition then S1 else S2;
```

Where, **S1** and **S2** are different statements. **Please note that the statement S1 is not followed by a semicolon.** In the if-then-else statements, when the test condition is true, the statement S1 is executed and S2 is skipped; when the test condition is false, then S1 is bypassed and statement S2 is executed.

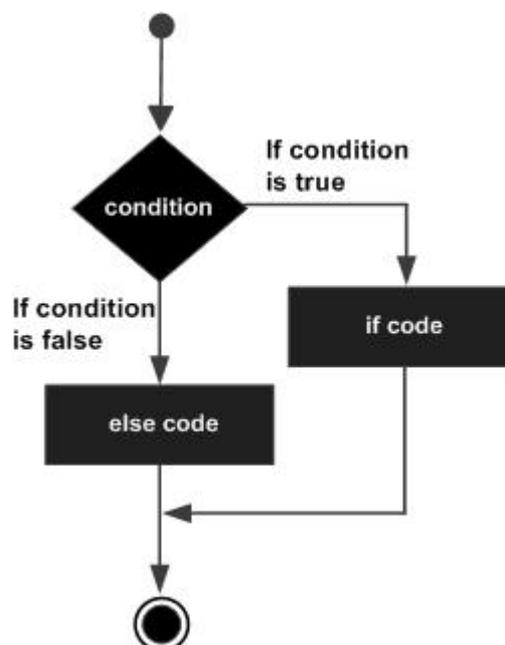
For example,

```
if color = red then  
    writeln('You have chosen a red car')  
  
else  
    writeln('Please choose a color for your car');
```

If the boolean expression **condition** evaluates to true, then the if-then block of code will be executed, otherwise the else block of code will be executed.

Pascal assumes any non-zero and non-nil values as true, and if it is either zero or nil, then it is assumed as false value.

## Flow Diagram



## Example

Let us try a complete example that would illustrate the concept –

```
program ifelseChecking;  
var  
    { local variable definition }  
    a : integer;
```

```

begin
  a := 100;
  (* check the boolean condition *)
  if( a < 20 ) then
    (* if condition is true then print the following *)
    writeln('a is less than 20' )

  else
    (* if condition is false then print the following *)
    writeln('a is not less than 20' );
    writeln('value of a is : ', a);
end.

```

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

```

a is not less than 20
value of a is : 100

```

## The if-then-else if-then-else Statement

An if-then statement can be followed by an optional else if-then-else statement, which is very useful to test various conditions using single if-then-else if statement.

When using if-then , else if-then , else statements there are few points to keep in mind.

- An if-then statement can have zero or one else's and it must come after any else if's.
- An if-then statement can have zero to many else if's and they must come before the else.
- Once an else if succeeds, none of the remaining else if's or else's will be tested.
- No semicolon ; is given before the last else keyword, but all statements can be compound statements.

## Syntax

The syntax of an if-then-else if-then-else statement in Pascal programming language is –

```

if(boolean_expression 1)then
  S1 (* Executes when the boolean expression 1 is true *)

else if( boolean_expression 2) then
  S2 (* Executes when the boolean expression 2 is true *)

else if( boolean_expression 3) then
  S3 (* Executes when the boolean expression 3 is true *)

else
  S4; ( * executes when the none of the above condition is true *)

```

## Example

The following example illustrates the concept –

```

program ifelse_ifelseChecking;
var
  { local variable definition }
  a : integer;

begin
  a := 100;
  (* check the boolean condition *)
  if (a = 10) then
    (* if condition is true then print the following *)
    writeln('Value of a is 10' )

```

```
else if ( a = 20 ) then
  (* if else if condition is true *)
  writeln('Value of a is 20' )

else if( a = 30 ) then
  (* if else if condition is true *)
  writeln('Value of a is 30' )

else
  (* if none of the conditions is true *)
  writeln('None of the values is matching' );
  writeln('Exact value of a is: ', a );
end.
```

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

```
None of the values is matching
Exact value of a is: 100
```

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