

# PASCAL - BASIC SYNTAX

You have seen a basic structure of pascal program, so it will be easy to understand other basic building blocks of the pascal programming language.

## Variables

A variable definition is put in a block beginning with a **var** keyword, followed by definitions of the variables as follows:

```
var
A_Variable, B_Variable ... : Variable_Type;
```

Pascal variables are declared outside the code-body of the function which means they are not declared within the **begin** and **end** pairs, but they are declared after the definition of the procedure/function and before the **begin** keyword. For global variables, they are defined after the program header.

## Functions/Procedures

In Pascal, a **procedure** is set of instructions to be executed, with no return value and a **function** is a procedure with a return value. The definition of function/procedures will be as follows –

```
Function Func_Name(params...) : Return_Value;
Procedure Proc_Name(params...);
```

## Comments

The multiline comments are enclosed within curly brackets and asterisks as `{* ... *}`. Pascal allows single-line comment enclosed within curly brackets `{ ... }`.

```
{* This is a multi-line comments
and it will span multiple lines. *}

{ This is a single line comment in pascal }
```

## Case Sensitivity

Pascal is a case non-sensitive language, which means you can write your variables, functions and procedure in either case. Like variables `A_Variable`, `a_variable` and `A_VARIABLE` have same meaning in Pascal.

## Pascal Statements

Pascal programs are made of statements. Each statement specifies a definite job of the program. These jobs could be declaration, assignment, reading data, writing data, taking logical decisions, transferring program flow control, etc.

For example –

```
readln (a, b, c);
s := (a + b + c)/2.0;
area := sqrt(s * (s - a)*(s-b)*(s-c));
writeln(area);
```

## Reserved Words in Pascal

The statements in Pascal are designed with some specific Pascal words, which are called the reserved words. For example, the words, `program`, `input`, `output`, `var`, `real`, `begin`, `readline`, `writeln` and `end` are all reserved words.

Following is a list of reserved words available in Pascal.

and	array	begin	case	const
div	do	downto	else	end
file	for	function	goto	if
in	label	mod	nil	not
of	or	packed	procedure	program
record	repeat	set	then	to
type	until	var	while	with

## Character set and Identifiers in Pascal

The Pascal character set consists of –

- All upper case letters A – Z
- All lower case letters a – z
- All digits 0 – 9
- Special symbols - + \* / := , . ; . [ ] = { } ` white space

The entities in a Pascal program like variables and constants, types, functions, procedures and records, etc., have a name or identifier. An identifier is a sequence of letters and digits, beginning with a letter. Special symbols and blanks must not be used in an identifier.

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