

Primitive data Types

Integer (Occupies 4 bytes in memory)		
Examples	Range	Example code
510 1000000 -305 The Left, Top, Width and Height properties of all components.	-2147483648 to 2147483647	var iCount, iAnswer: integer; iCount := StrToInt(edtCount.Text); iCount := sedCount.Value; lblResult.Caption := IntToStr(iAnswer);
<ul style="list-style-type: none"> • Used if we intend to only do integer calculations with a variable, e.g. the number of items that you purchased or a rugby team's score. • No spaces or commas are allowed in an integer value in Delphi. 		

Real (Occupies 8 bytes in memory)		
Examples	Range	Example code
2.5 0.14 -29345.56784	2.9×10^{-39} to 1.7×10^{38}	Var rAmount: real; rAmount := StrToFloat(edtAmount.text); lblResult.Caption := FloatToStr(rAmount);
<ul style="list-style-type: none"> • Used when working with numbers that contain decimals, e.g. monetary values, distances and weights. • No spaces or commas are allowed in an integer value in Delphi. 		

Char (Occupies 1 byte in memory)		
Examples	Range	Example code
'M'; '*' ; '?' ; 'ë' ; 'g'	Any character in the ASCII table.	Var cGender, cClass: char; cGender := edtGender.Text[1]; lblOut.Caption := cClass; Since a char data type can only contain one character, and a Text property is of type string, you need to indicate to Delphi that only the first character of the Text property should be copied to the variable.

- A letter, number, punctuation mark or any other character from the ASCII table, e.g. the class or gender of a pupil.
- Must be a single character (written between single quotes).

String (Can occupy various numbers of bytes in memory depending on the way it was declared. It always uses one extra byte for a number indicating the length – the number of characters in the string.)

Examples	Range	Example code
'Mary' 'The birds' 'CTX473 NW'	Any combination of characters.	Var sName20 : String[20]; This string can contain 20 characters. sAddress: String; Unlimited number of characters. Delphi allocates memory to the string as needed. sName: ShortString ; This string can contain 255 characters.
		sName := edtName.Text; lblOut.Caption := sAddress;

- In Delphi string values are written in single quotes. The smallest possible string contains 0 characters and is called an empty string. An empty string is indicated by two single quotes with no space in between ('').
- It is preferred to indicate the maximum number of bytes needed for a string in square brackets, e.g. String[20] as this will reserve only the number of bytes indicated in brackets + 1, in this case 21 bytes will be reserved in memory.

Boolean (Occupies 1 byte in memory.)

Examples	Range	Example code
True False	True False	Var bFound: Boolean;
		Button1.Enabled := False; Image1.Visible := True; bFound := True;

- Often we want to indicate Yes or No, for example if a learner is going on a field trip or not. A Boolean variable can contain one of only two values, namely TRUE (0) or FALSE (1).
- Not used in input and output statements.
- No quotes are used.