Strings as Arrays

A string is a collection of one or more characters that can be output (printed) or input (via the keyboard).

Since a string is a single variable which references multiple data items (characters), it can also be viewed as an array.

Most modern programming languages include a string data type, but older languages required the programmer to create their own string data type.

String Examples

```
var example : string

example := "Hello"

example := "123456"

example := "123 Brookfield Road"

example := "9 + 3 * 4 - 12 / 6"
```

Output Elements of a String

```
var example : string

example := "Hello"

put example     %output entire string
put example(1) %output 1st letter
put example(2) %output 2nd letter
put example(3)
put example(4)
put example(5)
```

Changing Elements of a String
What is the Expected Result?

```
var example : string

example := "Hello"

put example
example(1) := 'J'
put example
```

Changing Elements of a String DOES NOT WORK

```
var example : string

example := "Hello"

put example
example(1) := 'J'
put example
```

Although they are similar to arrays, don't assume that everything works in exactly the same way.

Strings – Length

length(*string*) – determines the length of *string*

```
var quote : string
var quoteLen : int

quote := "To be or not to be"
quoteLen := length(quote)

% output that it is 18 characters long
put quote ..
put " : " ..
put quoteLen ..
put " characters"
```

Traversing a String (visiting each location in array)

```
var word : string

put "Word? "..
get word

for i : 1 .. length(word)
  put word(i)
end for
```