|  |
| --- |
| Circle Language Spec: Parameters |

## Variable Amount of Parameters

### Concept

Other programming languages have a concept called variable amount of arguments. This means, that a command’s parameter list does not have a fixed amount of parameters. The last parameters can be any amount of parameters. This is specified as the last parameter’s being an *array* of parameters.

In the new computer language, any parameter can be an array. In other programming languages, parameters could also be arrays, but for the array, that represented the variable amount of arguments, each item of the array was separately listed out at the end of the command call, as opposed to other parameters, that were arrays, which were just references to arrays, that were initialized elsewhere, not inside the command call.

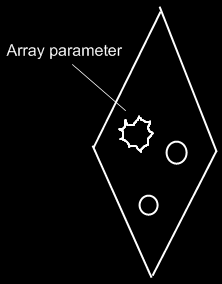
In the new computer language, for backwards compatibility purposes, and textual representation purposes, a parameter may be typed as the array that will represent the variable amount of arguments. In other programming languages, variable amount of arguments was also just for textual representation.

Perhaps in the future, it can be applied, that multiple array parameters are considered the variable amount of arguments. But how the notation will be kept unambiguous then is not clear yet.

Important to remember, is that parameters are not always single items, but a parameter can also be an array.

### In a Diagram

The array parameter, that represents the variable amount of arguments, does not have a special display in the diagram (yet). What is important to remember about the concept of variable amount of arguments is that: parameters can be arrays.



## Ideas

### Out of the original Symbol documentation

#### Variable Amount of Arguments

In text code, parameter assignments before a call are notated something like this:

Procedure A ( 0 , 4 )

Procedure A is the procedure name, the two numbers between brackets are the two arguments. Text code is covered in detail lateron.

The parameters of a procedure are listed in a fixed order. Even the optional parameters have a place in this fixed list and when you don’t want to fill it in you must leave the position open:

Procedure A ( 0 , 4 , , 1 )

After the fixed parameter list, a procedure can allow a variable amount of parameters to follow. This variable amount of parameters is stored in a single special parameter. This parameter is of type Array, a type defined in the Sigma Data module. To support variable amount of arguments, the procedure must have a public Array object that is assigned to be this special parameter.

Procedure A ( 0 , 4 , , 1 , 3 , 7 , **…** )

Variable amount of arguments is a purely textual notation. The diagram notation shows working with the Array object. However, an Array parameter needs to be tagged and in the diagram code this is simply shown by displaying the words ‘Arguments’ with the Array object.