

# Lua Syntax Cheat Sheet

## Comments

```
-- Single line comment

--[[
  Block comment
  Everything inside this block is
  treated as a comment
--]]
```

## Variables

```
numValue = 42 -- number (integer)
numFloatValue = 10.37 -- number (float)
stringValue = "Hello World!" -- string
boolValue = true -- boolean
```

## String

```
-- String concatenation operator ..
"Hello" .. " " .. "World" -- "Hello world"
```

## Arithmetics

```
num = 1
num = num + 1 -- increment
num = num - 1 -- decrement
num = 42 + 10 -- addition
num = 42 * 10 -- multiplication
num = 42 % 10 -- modulus
num = 42 - 10 -- subtraction
num = 42 / 10 -- division
num = 2 ^ 10 -- power
```

## Conditionals

```
if num == 0 then
  print("num is equal 0")
end

if num > 1 then
  print("num is greater than 1")
elseif num < 1 then
  print("num is less than 1")
else
  print("num is equal to 1")
end
```

## Loops

```
while num < 50 do
  print(num)
  num = num + 1
end
```

```

-- First parameter: start
-- Second parameter stop
-- (Optional, default = 1) Third parameter: step
for i = 1, 100, 1 do
    print(num)
    num = num + 1
end

repeat
    print(num)
    num = num + 1
until num > 10

```

## Tables

Tables in Lua language begins with 1.

```

t = {} -- Creates empty table (table constructor)
t[1] = "a" -- Put character 'a' at index 1

t["lua"] = 20 -- `t` contains 20 at index "lua"
t[1] = nil -- Removes value stored at index 1

t.name = "Victoria" -- t["name"] contains string "Victoria"

t2 = {2, 3, 4} -- Creates table with 2 stored at index 1,
              -- 3 stored at index 2, and 5 at index 3

-- Iterate through all values in a table.
-- i current index
-- n value at current index
for i, n in ipairs(t2) do
    print(i, n)
end

-- # table size
print(#t2) -- prints 3

```

## Functions

```

function isNegative(n)
    return n < 0
end

isNegative(-42) -- returns true
isNegative(42) -- returns false

-- Multiple arguments
function fullName(firstName, lastName)
    return string.format("%s %s", firstName, lastName)
end

-- Assign function to a variable.
negFn = isNegative
negFn(20) -- Returns false

```