

Roblox: General Scripting Cheat Sheet

by Ozzypig (Ozzypig) via cheatography.com/25526/cs/6711/

Essential Objects		
Class	Description	
Part	A physical brick in the world.	
Model	A container for Parts.	
Folder	A container for Scripts and value objects.	
Script	A container for <i>Lua</i> source code.	
LocalS- cript	A Script that runs its code on a client.	

Basic math functions	
Operation	Description
a + b	Adds a and b.
a - b	Subtract a and b.
a * b	Multiply a and b.
a / b	Divides a by b.
a % b	Remainder of a divided by b.
Function	Description
math.random(n)	Returns random number from 1 to n (no negatives).
<pre>math.random(a, b)</pre>	Returns random number from a to b.
math.max()	Returns the largest number.
math.min()	Returns the smallest number.

Basic math functions (cont)				
math.floor(n)	Rounds n down.			
math.ceil(n)	Rounds n up.			
math.abs(n)	Returns absolute value of n.			
math.sqrt(n)	Returns square root of n.			
math.pi	Approx equal to 3.141			

It's important to work out problems by hand before translating their solutions into code. Algebra is necessary for success. Read about all math functions here.

String functions	
Operation	Description
a b	Combine two strings.
Function	Description
string.len(str)	Returns length of str.
string.upper(str)	Returns str in upper-case.
string.lower(str)	Returns str in lower-case.
string.reverse(str)	Returns str in reverse.
string.rep(str, n)	Returns str repeated n times

String functions (cont)

string.sub(str, a, b) Return substring of st r from a to b.

A string is a collection of characters, or text.

An example of a string property is the Name property. Read all string manipulation functions here.

Tables		
<pre>local list = {1, 2, 3}</pre>		
<pre>local firstNum = list[1]</pre>		
list[2] = 4		
print(" There are " #list		
" number s")		
<pre>local total = 0</pre>		
<pre>for i = 1, #list do</pre>		
total = total + list[i]		
end		
<pre>print("The total is " total)</pre>		

Tables are a collection of values. They are defined using curly braces {} with values separated by commas. Access the values inside using square brackets []. Tables are sometimes called arrays. Use a for loop to work with all items in a table individually. The :GetChildren() method returns a table of children in an object.



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Constants

game Parent of all game services.

workspace Container for all bricks and models are stored.

script The currently running script.

Finding Objects

workspace.Part:Destroy()
print(scr ipt.Pa ren t.Name)
game.S erv erS tor age.Tr ee: Clone()

Use a period to access an object's children. Use .Parent to access an object's parent. Use constants like game, workspace, and script to identify objects in the hierarchy.

Creating objects

How do I create an object?

Using Instan ce.n ew (class) and
setting the parent:
object.Parent = parent

How do I access an object's properties?

Use a period (.):

print(obj ect.Name)

How do I set an object's properties?

Use a period (.) and equals sign (=):
part.T ran spa rency = .5

How do I destroy an object?

Using object :De stroy()

Creating objects (cont)

How do I copy a preexisting object?

Using object :Cl one() and setting the parent:

newTree = workspace.Tree:Clone()
newTree.Parent = workspace

General Object Functions

General Object Functions	
Method name	Description
:FindFirstChild(name)	Return a child with na me or nil if it doesn't exist.
:WaitForChild(name)	Pauses until a child with a name exists and returns it.
:IsA(className)	Return whether the object is a certain type of object.
:Clone()	Makes and returns a copy of an object.
:Destroy()	Permanently delete an object.
:GetChildren()	Return a list of an object's children.

Event basics

function onTouch(part)

pri nt(par t.Name .. "
touched me!")

end

worksp ace.Pa rt.T ou che d:c onn ect (on Touch)

Events are specific occurrences relating to objects. When an event **fires**, or occurs, all connected functions are called.

Basic functions

wait(n) Wait n seconds then continue.

print(...) Display something in the Output window.

Variables

local myScore = 5
myScore = myScore + 1
print(myS core)
local myName = " Ozz y"
print("My name is " .. myName)

Variables store data of any kind - numbers, strings, tables, objects or **nil** (nothing). A **local** variable is only accessible in the block of code it is defined in.



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methods here.

These are functions (aka methods) for all classes of ROBLOX objects. Read about all

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If statements

```
workspace:FindFirstChild("Tree")
then
     pri nt( " There is a tree
here.")
end
if coins < 5 then</pre>
    pri nt( "You need more
money." )
      pri nt( "You have enough
money! ")
if player.Name == " Jak e'then
      pri nt( "You are an
awesome quy, Jake")
elseif player.Name == " Sal ly"
```

If statements will run their code if the value between if/then is true (or not nil). They can one an else block, or any number of elseif blocks

pri nt("You are a pretty

pri nt("You are a

sweeth eart, Sally")

cool person ")

then

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Loops

Numeric for loop For counting numerically. Example: Count from 1 to 5: for i = 1, 5 doprint(i)

Generic for loop

end

```
Example: Print all children in object:
for i, child in pairs(object:GetChildren()
   print(child.Name)
end
```

Most often used for object children.

While loop

```
Perform code until a condition is false.
Example: Remove all children named 'Ball'
while object:FindFirstChild("Ball")
   object.Ball:Destroy()
end
```

Function examples

```
function sayHello()
      pri nt( " Hello, world")
end
sayHello()
function addTwo Num bers(a, b)
      pri nt( "The sum is:", a +
b)
end
addTwo Num bers (3, 5)
function calcul ate Squ are(n)
ldren()) do
   return n * n
local result = calcul ate Squ -
are(3)
```

A function is a named block of code that can be run anywhere in code by calling it by name. Functions can have arguments (given values) and/or return values.

Repeat-until loop

Perform code once, then again until a condition is true.

Ex.: Copy objects until there are 5.

repeat

```
newObject = object:Clone()
  newObject.Parent = workspace
  wait(1)
until #workspace:GetChildren() >= 5
```

Loops are used to iterate, or repeat code a number of times.

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