## Mod Version: `1.1.9`

# Other Languages

Japanese (日本語)

Thanks to kudan for the japanese translation!

# Lua Scripting Mod User Manual (EN)

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## Introduction

This mod provides the ability to create and run Lua scripts in game without any compilation process with multiplayer support allowing you to create much more complex machines. Scripts can only control local player machine; they do not affect the level or other players machines in any way.

Big thanks to the authors of UniLua.

## Useful Links

- Lua 5.2 Reference Manual.
- Unity – Manual: Order of execution for event functions.
- UnityEngine.GUI.
- Unity – Scripting API: Vector4.
- Unity – Scripting API: Quaternion.
- Unity – Scripting API: Rect.
- Unity – Scripting API: Input.
- Unity – Scripting API: Physics.

## What exactly does mod do?

- When you load a machine or create a new one mod will automatically load it's LuaRoot files if it has any. Otherwise, it will create a new LuaRoot inside current machine.
- LuaRoot is a directory where all Lua files and folders are stored. You can access this directoruy by pressing `Open LuaRoot Folder` in mod menu.
- When you run the simulation mod will run the script `main.lua` and if everything started without critical errors mod will save LuaRoot into current machine.
- When you save your machine, LuaRoot will also be included into a save file. You also can save LuaRoot manually by pressing `Save LuaRoot manually`.
- Machine script contains all base unity callbacks. There are short descriptions for all of them inside the default script file or down below.

## Quick Summary of the Mod

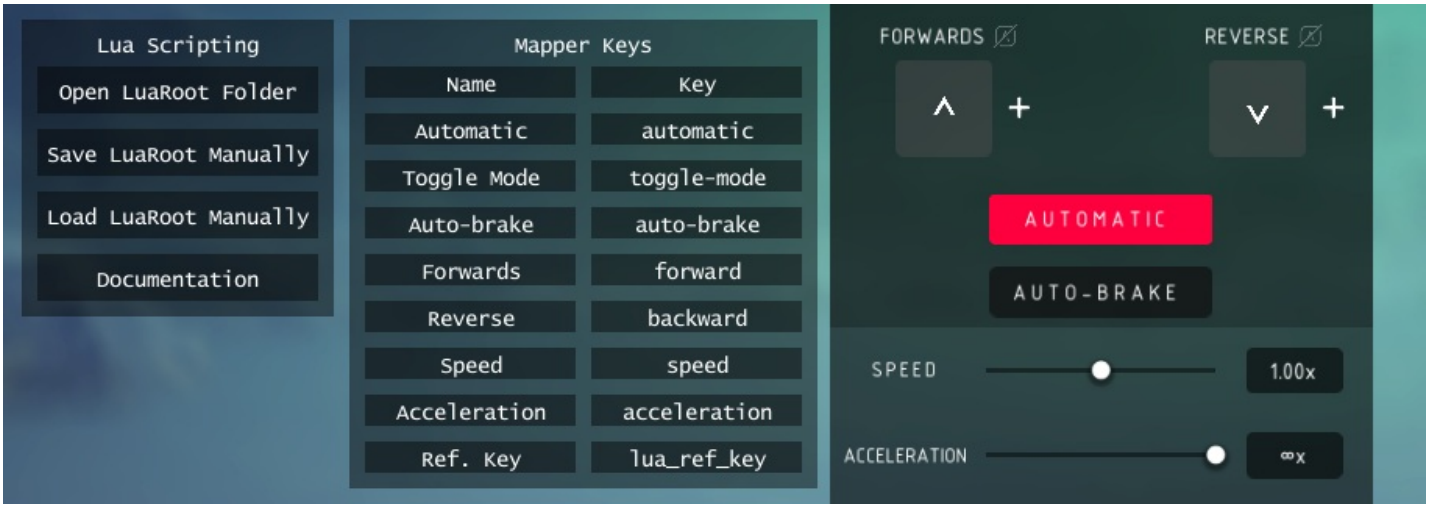
- There are 5 main callbacks: `play`, `update`, `late_update`, `fixed_update` and `on_gui`. Each has its own purpose. See Unity Scripting API about them.
  - `play` called on simulation start. Mostly useless, but can be used for adding chat listeners.
  - `update` called each frame update. Used to get player input.
  - `late_update` called after frame update.
  - `fixed_update` called fixed times per second. Used for physics and so. Put all your cool code here.
  - `on_gui` called only to draw GUI on screen.
- Key emulation is provided by key emulator, it can be started, stopped or just clicked:

```
local some_key_emulator = machine.new_key_emulator('c')
some_key_emulator.start()
some_key_emulator.stop()
some_key_emulator.click()
```

- Slider values can be changed by creating a new `reference controller`. Reference controller controls all blocks with same reference key.

1. Assign reference key to the block. In this case we are using wheels. So, don't forget to enable automatic mode as we are changing wheels speed, not forcing them to spin. Let's call them `rotor`.


2. Find out mapper type key name of the slider you are changing. In our case it is called `speed`.




3. Create a new `reference controller` and set the speed.

```
local rotor = machine.get_refs_control('rotor')
rotor.set_slider('speed', 0.5)
```

- Adjusting steering angles can be done by creating a new `reference controller` (or using existing) as shown above and setting desired angle.

```
local hinge = machine.get_refs_control('hinge')
hinge.set_steering(45)
```

- Block position, rotation, velocity and other information can be obtained by creating a new `block info`.

```
local machine_info = machine.get_machine_info()
local starting_block = machine_info.get_block_info(0)
local position = starting_block.position()
```

It is also possible to get information about other players blocks and machines.

```
for i = 0, players.count() - 1 do
    local player = players.get(i)
    if not player.is_local_player() and player.is_simulating() then
        local enemy_position = players.get(i).get_machine_info().get_block_info(0).position()
        print('enemy at height ' .. enemy_position.y)
    end
end
```

- Raycasting may be done using `physics`.

```
local raycast_start = vector.add(starting_block.position(), vector.multiply(starting_block.up(), -0.5))
local raycast_direction = vector.multiply(starting_block.up(), -1)
local raycast_hit = physics.raycast(raycast_start, raycast_direction)
```

- Near colliders can be found by using sphere overlapping using `physics`.

```
local colliders = physics.overlap_sphere(starting_block.position(), 5)
for i in pairs(colliders) do
    print(colliders[i].is_block)
end
```

- Debug lines can be drawn using `lines` library.

```
local line = lines.new_line_renderer()
line.set_points(vector.new(0, 0, 0), vector.new(10, 10, 10))
```

- Chat messages can be handled by creating a new `chat listener`. Don`t forget that you must add listener only after declaring callback function.

```
local function on_chat(sender, text)
    print(sender .. ' just said ' .. text)
end

chat.add_listener(on_chat)
```

Write your own chat messages with rich text without any nickname prefix.

```
chat.set_visible(true)

chat.write_local('<color=\"red\">Only you can see this!</color>')
chat.write_team('<color=\"red\">Only your team can see this!</color>')
chat.write_global('<color=\"green\">Hello, everyone!</color>')
```

- I`ll be very happy to add new suggested features!

# Lua Tables

There is no such thing in this Lua interpreter used in mod as object-oriented programming, but there are tables! Tables allows to store values or even functions, so they are used as objects. However, remember: there are no references, only new tables every time (reference support WIP).

## Rectangle

Created by rectangle library using `rect.new(...)`

| field | type |
|---|---|
| **x** | `int` |
| **y** | `int` |
| **width** | `int` |
| **height** | `int` |

### Vector

Created by vector library using `vector.new(...)`

| field | type |
| --- | --- |
| **x** | `number` |
| **y** | `number` |
| **z** | `number` |
| **w** | `number` |

### Quaternion

Created by quaternion library using `quaternion.euler(...)`

| field | type |
| --- | --- |
| **x** | `number` |
| **y** | `number` |
| **z** | `number` |
| **w** | `number` |

### Key Emulator

Created by machine library using `machine.new_key_emulator(...)`.

| field | type |
| --- | --- |
| **start** | *function* (no args; `void`) |
| **stop** | *function* (no args; `void`) |
| **click** | *function* (no args; `void`) |
| **active** | *function* (no args; returns `boolean`) |

### Refs Controller

Created by machine library using `machine.get_refs_control(...)`.

| field | type |
| --- | --- |
| **set_slider** | *function* (args: `string` mapper_key, `number` value; `void`) |
| **set_steering** | *function* (args: `number` angle; `void`) |

### Block Info

Created by machine info using `machine_info.get_block_info(...)`.

| field | type |
| --- | --- |
| **position** | *function* (no args; returns `vector`) |
| **forward** | *function* (no args; returns `vector`) |
| **right** | *function* (no args; returns `vector`) |
| **up** | *function* (no args; returns `vector`) |

| field | type |
| --- | --- |
| **rotation** | *function* (no args; returns `vector`) |
| **being_vacuumed** | *function* (no args; returns `boolean`) |
| **id** | *function* (no args; returns `int`) |
| **build_index** | *function* (no args; returns `int`) |
| **health** | *function* (no args; returns `number`) |
| **burning** | *function* (no args; returns `boolean`) |
| **flipped** | *function* (no args; returns `boolean`) |
| **frozen** | *function* (no args; returns `boolean`) |
| **in_wind** | *function* (no args; returns `boolean`) |
| **destroyed** | *function* (no args; returns `boolean`) |
| **zero_g** | *function* (no args; returns `boolean`) |
| **original_mass** | *function* (no args; returns `number`) |
| **scale** | *function* (no args; returns `vector`) |
| **velocity** | *function* (no args; returns `vector`) |
| **angular_velocity** | *function* (no args; returns `vector`) |

### Machine Info

Created by machine using `machine.get_machine_info(...)`.

| field | type |
| --- | --- |
| **get_block_info** *(local machine only)* | *function* (args: `string` ref_key, `int` index_of_all *(optional)*; returns `block info`) |
| **get_block_info** *(both local and another player`s machine)* | *function* (args: `int` build_index; returns `block info`) |
| **block_count** | *function* (no args; returns `int`) |
| **cluster_count** | *function* (no args; returns `int`) |
| **center** | *function* (no args; returns `vector`) |
| **mass** | *function* (no args; returns `number`) |
| **middle** | *function* (no args; returns `vector`) |
| **name** | *function* (no args; returns `string`) |
| **player_id** | *function* (no args; returns `int`) |
| **player** | *function* (no args; returns `player info`) |

| field | type |
| --- | --- |
| position | *function* (no args; returns `vector`) |
| rotation | *function* (no args; returns `vector`) |
| velocity | *function* (no args; returns `vector`) |
| angular_velocity | *function* (no args; returns `vector`) |
| size | *function* (no args; returns `vector`) |
| unbreakable | *function* (no args; returns `boolean`) |
| infinite_ammo | *function* (no args; returns `boolean`) |
| is_dragging_blocks | *function* (no args; returns `boolean`) |
| team | *function* (no args; returns `int`) |
| is_simulating | *function* (no args; returns `boolean`) |

### Raycast Hit

Created by physics using `physics.raycast(...)`.

| field | type |
| --- | --- |
| distance | `number` |
| point | `vector` |
| normal | `vector` |
| is_block | `boolean` |
| get_block_info | *function* (no args; returns `block info`) |

### Collider

Created by physics using `physics.overlap_sphere(...)`.

| field | type |
| --- | --- |
| is_block | `boolean` |
| get_block_info | *function* (no args; returns `block info`) |

### Line Renderer (WIP)

Created by lines library using `lines.new_line_renderer()`.

| field | type |
| --- | --- |
| set_points | *function* (`vector` start, `vector` end; `void`) |
| set_width | *function* (`number` start_size, `number` end_size; `void`) |
| set_color | *function* (`vector` color; `void`) |

### Shape

Created by shapes library using `shapes.new_...()`.

| field | type |
|---|---|
| **set_position** | *function* (`vector` position; `void`) |
| **set_rotation** | *function* (`quaternion` rotation; `void`) |
| **set_scale** | *function* (`vector` scale; `void`) |
| **set_color** | *function* (`vector` color; `void`) |

## Player Info

Created by players library using `players.get(...)` and other.

| field | type |
|---|---|
| **in_local_sim** | *function* (no args; returns `boolean`) |
| **is_host** | *function* (no args; `boolean`) |
| **is_local_player** | *function* (no args; returns `boolean`) |
| **is_spectator** | *function* (no args; returns `boolean`) |
| **is_simulating** | *function* (no args; returns `boolean`) |
| **name** | *function* (no args; returns `string`) |
| **id** | *function* (no args; returns `int`) |
| **team** | *function* (no args; returns `id`) |
| **get_machine_info** | *function* (no args; returns `machine info`) |

## Level Entity

Created by entities library using `entities.get(...)` and other.

| field | type |
|---|---|
| **position** | *function* (no args; returns `vector`) |
| **rotation** | *function* (no args; returns `vector`) |
| **scale** | *function* (no args; returns `vector`) |
| **velocity** | *function* (no args; returns `vector`) |
| **is_destroyed** | *function* (no args; returns `bool`) |
| **id** | *function* (no args; returns `int`) |
| **name** | *function* (no args; returns `string`) |
| **category** | *function* (no args; returns `string`) |
| **team** | *function* (no args; returns `int`) |

| field | type |
| --- | --- |
| max_health | *function* (no args; returns `number`) |
| health | *function* (no args; returns `number`) |

## Mod libraries

Warning! Every time when a function returns table it creates a **new** table, not returns a reference to a table. It means that you shouldn't create big tables such as `block info` in `fixed_update` loop. Instead, create `block info` at the top of script or in the `play` callback. However, it isn't necessery, just be careful.

### Math

`math`

Math library.

| function | arguments | return values |
| --- | --- | --- |
| abs | `number` x | `number` |
| acos | `number` x | `number` |
| asin | `number` x | `number` |
| atan2 | `number` y, `number` x | `number` |
| atan | `number` x | `number` |
| ceil | `number` x | `number` |
| cosh | `number` x | `number` |
| cos | `number` x | `number` |
| deg | `number` x | `number` |
| exp | `number` x | `number` |
| floor | `number` x | `number` |
| fmod | `number` x, `number` y | `number`, |
| frexp | `number` x | `number`, `number` |
| ldexp | `number` x, `number` y | `number` |
| log10 | `number` x | `number` |
| log | `number` x, `number` base *(optional)* | `number` |
| max | *multiple `number` arguments* | `number` |
| min | *multiple `number` arguments* | `number` |
| modf | `number` x | `number`, `number` |
| pow | `number` x, `number` y | `number` |
| rad | `number` x | `number` |
| random | | `number` |
| random | `number` upper | `number` |
| random | `number` lower, `number` upper | `number` |

| function | arguments | return values |
|---|---|---|
| **randomseed** | `number` seed | `void` |
| **sinh** | `number` x | `void` |
| **sin** | `number` x | `number` |
| **sqrt** | `number` x | `number` |
| **tanh** | `number` x | `number` |
| **tan** | `number` x | `number` |
| **lerp** | `number` a, `number` b, `number` t | `number` |
| **inverse_lerp** | `number` a, `number` b, `number` t | `number` |
| **lerp_unclamped** | `number` a, `number` b, `number` t | `number` |
| **lerp_angle** | `number` a, `number` b, `number` t | `number` |
| **clamp** | `number` a, `number` min, `number` max | `number` |
| **clamp01** | `number` a | `number` |
| **approximately** | `number` a, `number` b | `bool` |
| **round** | `number` x | `number` |
| **closest_power_of_two** | `number` x | `number` |
| **delta_angle** | `number` a, `number` b | `number` |
| **gamma** | `number` value, `number` absmax, `number` gamma | `number` |
| **gamma_to_linear_space** | `number` x | `number` |
| **linear_to_gamma_space** | `number` x | `number` |
| **move_towards** | `number` current, `number` target, `number` max_delta | `number` |
| **is_power_of_two** | `number` x | `bool` |
| **perlin_noise** | `number` x, `number` y | `number` |
| **ping_pong** | `number` t, `number` length | `number` |
| **repeat** | `number` t, `number` length | `number` |
| **sign** | `number` x | `number` |
| **smoothstep** | `number` from, `number` to, `number` t | `number` |

## Rectangle

`rect`

Used by GUI library.

| function | arguments | return values |
|---|---|---|
| **new** | `int` x *(optional)*, `int` y *(optional)*, `int` width *(optional)*, `int` height *(optional)* | `rectangle` |

## Texture

`texture`

Used by GUI library.

| function | arguments | return values |
| --- | --- | --- |
| **from_base64** | `string` base64_image | `number` texture_ref |

## Graphical user interface

`gui`

GUI library based on `UnityEngine.GUI` class except for some functions where arguments were changed. See Unity Scripting API about GUI in Useful Links.

| function | arguments | return values |
| --- | --- | --- |
| **world_to_screen_point** | `vector` world_position | `vector` |
| **draw_texture** | `rectangle` position, `number` texture_ref | |
| **rotate_around_point** | `number` angle, `vector` point | |
| **scale_around_point** | `vector` scale, `vector` point | |
| **draw_texture** | `rectangle` position, `number` texture_ref | |
| **label** | `rectangle` position, `string` text | |
| **button** | `rectangle` position, `string` text | `boolean` |
| **toggle** | `rectangle` position, `boolean` value, `string` text | `boolean` |
| **begin_group** | `rectangle` position | |
| **begin_scroll_view** | `rectangle` position, `vector` scroll_position, `rectangle` view_rect | |
| **box** | `rectangle` position, `string` text | |
| **bring_window_to_front** | `int` window_id | |
| **bring_window_to_back** | `int` window_id | |
| **drag_window** | | |
| **end_group** | | |
| **end_scroll_view** | | |
| **focus_control** | `string` name | |
| **focus_window** | `string` name | |
| **get_name_of_focused_control** | | `string` |
| **horizontal_scrollbar** | `rectangle` position, `number` value, `number` size, `number` left_value, `number` right_value | `number` |
| **horizontal_slider** | `rectangle` position, `number` value, `number` left_value, `number` right_value | `number` |
| **modal_window** *(arguments were changed)* | `int` id, `rectangle` client*rect,* `string` *text, _function* (args: `int` window_id; `void`) | `rectangle` |
| **password_field** | `rectangle` position, `string` password, `char` mask | `string` |
| **repeat_button** | `rectangle` position, `string` text | `boolean` |
| **scroll_to** | `rectangle` position | |

| function | arguments | return values |
|---|---|---|
| **selection_grid** | `rectangle` position, `int` selected, `string` array texts, `int` x_count | `int` |
| **set_next_control_name** | `string` name | |
| **text_area** | `rectangle` position, `string` text | `string` |
| **text_field** | `rectangle` position, `string` text | `string` |
| **unfocus_window** | | |
| **vertical_scrollbar** | `rectangle` position, `number` value, `number` size, `number` top_value, `number` buttom_value | `number` |
| **vertical_slider** | `rectangle` position, `number` value, `number` top_value, `number` buttom_value | `number` |
| **window** *(arguments are changed)* | `int` window*id*, `rectangle` *client_rect*, `string` *title*, *_function* (args: `int` window_id; `void`) | `rectangle` |

## Vector

`vector`

Basic Vector4 library based on `UnityEngine.Vector4`. See Unity Scripting API about Vector4 in Useful Links.

| function | arguments | return values |
|---|---|---|
| **new** | `number` w *(optional)*, `number` y *(optional)*, `number` z *(optional)*, `number` w *(optional)* | `vector` |
| **distance** | `vector` a, `vector` b | `number` |
| **dot** | `vector` a, `vector` b | `number` |
| **lerp** | `vector` a, `vector` b, `number` t | `vector` |
| **lerp_unclamped** | `vector` a, `vector` b, `number` t | `vector` |
| **magnitude** | `vector` a | `number` |
| **max** | `vector` lhs, `vector` rhs | `vector` |
| **min** | `vector` lhs, `vector` rhs | `vector` |
| **move_towards** | `vector` current, `vector` target, `number` max_distance_delta | `vector` |
| **normalize** | `vector` a | `vector` |
| **project** | `vector` a, `vector` b | `vector` |
| **scale** | `vector` a, `vector` b | `vector` |
| **add** | `vector` a, `vector` b | `vector` |
| **subtract** | `vector` a, `vector` b | `vector` |
| **negative** | `vector` a | `vector` |
| **multiply** | `vector` a, `number` b | `vector` |
| **equals** | `vector` a, `vector` b | `boolean` |
| **angle** | `vector` from, `vector` to | `number` |
| **clamp_magnitude** | `vector` a, `number` max_length | `vector` |

| function | arguments | return values |
|---|---|---|
| **cross** | `vector` a, `vector` b | `vector` |
| **project_on_plane** | `vector` point, `vector` normal | `vector` |
| **reflect** | `vector` in_direction, `vector` in_normal | `vector` |

## Quaternion

`quaternion`

Basic Quaternion library based on `UnityEngine.Quaternion`. See Unity Scripting API about Quaternion in Useful Links.

| function | arguments | return values |
|---|---|---|
| **new** | `number` w *(optional)*, `number` y *(optional)*, `number` z *(optional)* | `quaternion` |
| **new** | `vector` vector | `quaternion` |
| **euler** | `number` w *(optional)*, `number` y *(optional)*, `number` z *(optional)* | `quaternion` |
| **euler** | `vector` vector | `quaternion` |
| **angle** | `quaternion` a, `quaternion` b | `number` |
| **angle_axis** | `number` angle, `vector` axis | `quaternion` |
| **dot** | `quaternion` a, `quaternion` b | `number` |
| **from_to_rotation** | `vector` from_rotation, `vector` to_direction | `quaternion` |
| **inverse** | `quaternion` a | `quaternion` |
| **lerp** | `quaternion` a, `quaternion` b, `number` t | `quaternion` |
| **lerp_unclamped** | `quaternion` a, `quaternion` b, `number` t | `quaternion` |
| **slerp** | `quaternion` a, `quaternion` b, `number` t | `quaternion` |
| **slerp_unclamped** | `quaternion` a, `quaternion` b, `number` t | `quaternion` |
| **look_rotation** | `vector` forward, `vector` upwards | `quaternion` |
| **rotate_towards** | `quaternion` from, `quaternion` to, `number` max_degrees_delta | `quaternion` |
| **multiply** | `quaternion` a, `quaternion` b | `quaternion` |
| **multiply_on_vector** | `quaternion` a, `vector` b | `vector` |
| **equals** | `quaternion` a, `quaternion` b | `boolean` |

## Machine

`machine`

Machine library for key emulation, steering and sliders controlling, machine info.

| function | arguments | return values |
|---|---|---|
| **new_key_emulator** | `string` key_code | `key emulator` |
| **get_refs_control** | `string` ref_key | `refs controller` |

| function | arguments | return values |
| --- | --- | --- |
| get_machine_info | | `machine info` |

## Input

`input`

Library for handling direct input from keyboard, mouse, joysticks and other. See Unity Scripting API about Input in Useful Links.

| function | arguments | return values |
| --- | --- | --- |
| mouse_screen_position | | `vector` |
| mouse_raycast_hit_point | | `vector` |
| mouse_raycast_hit | | `raycast hit` |
| get_axis | `string` axis | `number` |
| get_axis_raw | `string` axis | `number` |
| get_key | `string` key_code | `boolean` |
| get_key_down | `string` key_code | `boolean` |
| get_mouse_button | `int` mouse_button | `boolean` |
| get_mouse_button_down | `int` mouse_button | `boolean` |
| get_mouse_button_up | `int` mouse_button | `boolean` |
| any_key | | `boolean` |
| any_key_down | | `boolean` |
| mouse_scroll_delta | | `vector` |
| main_camera_position | | `vector` |

## Cursor

`cursor`

Library for controlling mouse cursor.

| function | arguments | return values |
| --- | --- | --- |
| set_state | `boolean` state | |

## Physics

`physics`

Library for obtaining information using physics. See Unity Scripting API about Physics in Useful Links.

| function | arguments | return values |
| --- | --- | --- |
| raycast | `vector` origin, `vector` direction | `raycast hit` |
| overlap_sphere | `vector` origin, `number` radius, `int` layer_mask *(optional)* | `collider` array |

| function | arguments | return values |
| --- | --- | --- |
| **overlap_box** | `vector` center, `vector` half_extents, `quaternion` rotation *(optional)*, `int` layer_mask *(optional)* | `collider` array |
| **overlap_capsule** | `vector` point0, `vector` point1, `number` radius, `int` layer_mask *(optional)* | `collider` array |
| **check_sphere** | `vector` origin, `number` radius, `int` layer_mask *(optional)* | `bool` |
| **check_box** | `vector` center, `vector` half_extents, `quaternion` rotation *(optional)*, `int` layer_mask *(optional)* | `bool` |
| **check_capsule** | `vector` point0, `vector` point1, `number` radius, `int` layer_mask *(optional)* | `bool` |
| **sphere_cast** | `vector` origin, `vector` direction, `number` radius, `number` max_distance, `int` layer_mask *(optional)* | `bool` |
| **box_cast** | `vector` center, `vector` half_extents, `vector` direction, `number` max_distance, `quaternion` rotation *(optional)*, `int` layer_mask *(optional)* | `bool` |
| **capsule_cast** | `vector` point0, `vector` point1, `number` radius, `vector` direction, `number` max_distance, `int` layer_mask *(optional)* | `bool` |
| **line_cast** | `vector` stard, `vector` end, `int` layer_mask *(optional)* | `bool` |
| **gravity** | | `vector` |

## Players

`players`

Library for getting information about multiplayer session.

| function | arguments | return values |
| --- | --- | --- |
| **count** | | `int` |
| **get** | `int` player_index | `player info` |
| **by_id** | `int` network_id | `player info` |
| **get_all** | | `player info` array |

## Lines

`lines`

Library for drawing 3D debug lines (only for local client).

| function | arguments | return values |
| --- | --- | --- |
| **new_line_renderer** | | `line renderer` |

## Shapes

`shapes`

Library for drawing 3D debug shapes (only local client).

| function | arguments | return values |
| --- | --- | --- |
| **new_sphere** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |
| **new_capsule** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |

| function | arguments | return values |
| --- | --- | --- |
| **new_cylinder** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |
| **new_cube** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |
| **new_plane** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |
| **new_quad** | `vector` position, `quaternion` rotation, `vector` scale, `vector` color, | `shape` |

## Screen

`screen`

Library for getting screen information.

| function | arguments | return values |
| --- | --- | --- |
| **width** | | `number` |
| **height** | | `number` |
| **fullscreen** | | `boolean` |
| **dpi** | | `number` |

## Chat

`chat`

Library for handling and writing chat messages.

| function | arguments | return values |
| --- | --- | --- |
| **add_listener** | *function* (args: `string` sender, `string` text; `void`) | |
| **set_visible** | `boolean` state | |
| **write_local** | `string` text | |
| **write_team** | `string` text | |
| **write_global** | `string` text | |
| **clear** | | |

## Level Entities

`entities`

Library for getting information about level entities (works only with level editor and multiplayer).

| function | arguments | return values |
| --- | --- | --- |
| **count** | | `int` |
| **get_all** | | `entity` array |
| **get_all_by_name** | `string` name | `entity` array |

| function | arguments | return values |
| --- | --- | --- |
| get_all_by_id | `int` id | `entity` array |
| get_all_by_category | `string` category | `entity` array |
| get_all_in_sphere | `vector` origin, `number` radius | `entity` array |
| get_nearest | `vector` origin | `entity` |
| get_nearest_alive | `vector` origin | `entity` |

### Time

`time`

| function | arguments | return values |
| --- | --- | --- |
| time | | `number` |
| delta_time | | `number` |
| fixed_delta_time | | `number` |
| time_scale | | `number` |

Thanks for reading!