



## Lua command reference document



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## Global LUA pre-defined functions (basicFunctions.lua)

These functions can be called from anywhere in IRB. They are global. But these have been written in LUA, so they could be modified by the user.

### ---- internals

**IRBStoreGlobalParams()**

**IRBRestoreGlobalParams()**

### ---- Global functions

**setObjectName(string 'name')**

set the global name of the current object

**chaseObject(string 'name', float speed, float near, float far)**

chase the specified object

*speed* = move speed

*near* = stop when reaching this distance (also IDLE state is triggered)

*far* = start walking from this position (also WALK state is triggered)

**walkRandomly(float radius, float speed)**

Walk randomly in a specified radius

*radius* = random point to get there specified from a radius around the object

*speed* = move speed

**walkToObject(otherObj)**

Walk to an object, current command doesn't account the animations

**CustomDynamicObjectUpdate()**

update the dynamic objects, work with the 'walkToObject' command

Should be placed in the 'step' callback

**programAction(time, action, parameter...)**

Call a specified custom function at the specified time interval.

*time* = time interval in second

*action* = function name to call

*parameters* = parameter (up to 10 parameters)

Ex:     programAction(10, print, 'hello world')

Will call: print "hello world" after 10 seconds.

**CustomDynamicObjectUpdateProgrammedAction()**

Update programmed action if it exist



*action* = **hasActionProgrammed()**

Will return the name of the action that is programmed. if any.

**enableObject()**

will enable the current object

**disableObject()**

Will disable the current object

**decreasePlayerLife(points)**

Remove 'point' from the current life of the player

**increasePlayerLife(points)**

Increase the current player life with 'points'

**decreasePlayerMoney(points)**

Remove 'points' from the current player money

**increasePlayerMoney(points)**

Increase the current money of the player with 'point'

**playSound(soundName, looped)**

Play a 2D sound

**emitSound(soundName, looped)**

Play a sound from the current position of the object (3D Sound)

**sleep(time)**

Will 'sleep' until the time is reached. 'time' is in seconds.



## Global Functions

These functions can be called from about anywhere in IRB. They are global. They have been coded directly in the engine and cannot be modified directly by the user.

### Global variables creation

**setGlobal**(string *'name'*, *value*)

Create a global unique name

*value* = **getGlobal**(string *'name'*)

Retrieve the value of the global

**deleteGlobal**(string *'name'*)

Delete the specified global

### Lighting / ambiance commands

**setTimeOfDay**(int *time*)

set the time of day

**setAmbientLight**(int *r*, int *g*, int *b*)

Set the ambient light to the specified RGB colors

*r,g,b* = **getAmbientColor**()

Give back the ambient color

**setFogColor**(int *r*, int *g*, int *b*)

Set the color of the fog to the specified RGB color

*r,g,b* = **getFogColor**()

Retrieve the current fog color in RGB color

**setFogRange** (float *near*, float *far*)

Define the range of the fog

*near, far* = **getFogRange**()

Retrieve the range of fog

*String* = **getLanguage**()

Return the current language for the game, the currently supported languages strings are:

“en-us” -> English, US

“pt-br” -> Portuguese, Brazil

“fr-ca” -> French, Canada

“de-ge” -> Deutsch, Germany



## Background

**setSkydomeTexture**(string *'texturefilename'*)

Change the texture of the skydome

**setSkydomeVisible**(bool *visible*)

Set the visibility of the skydome

**setBackgroundcolor**(int *r*, int *g*, int *b*)

Set the background rendering color

## Special FX post-process commands

**setPostFX**(string *'name'*)

Create a postprocess FX, These can be useful in a lot of circumstances. Applied FX will change all of the display. The shader modify the rendered output.

name can be:

```
adaptive_bloom
blur
color
depth_of_field
desaturate
displacement
dream_vision
embossed
gray_scale
invert
motion_blur
none
night_vision
pencil
posterize
pulsing
radial_blur
scratched
sepia
shake
sharpen
simple_bloom
tiling
vignette
water
```

These FX are based on shaders and there might be modified in the future.



## Cameras commands

**setCameraTarget(float x, float y, float z)**

Set a new position for the camera, use the specified coordinates

**setCameraTarget(string 'objectname')**

Set a new position for the camera, use the object name as reference

**x,y,z = getCameraTarget()**

Get the current camera target

**x,y,z = getCameraPosition(string 'objectname')**

Retrieve the position of the current camera

**setCameraPosition(float x, float y, float z)**

Set a new position for the camera, use the specified coordinates

**setCameraPosition(string 'objectname')**

Set a new position for the camera, use the object name as reference

**setCameraRange(float start, float end)**

Set the range of the ingame camera zoom (mouse wheel)

Default values are min=72, max=2000

**setCameraZoom(float zoom)**

Set distance for the camera zoom

Default value is 600

**Start, end = getCameraRange()**

Retrieve the current range limits of the camera zoom

**setCameraAngleLimit(float low, float high)**

Define the angle limit (up/down) limits of the game camera

The default values are -25, 89

**low, high = getCameraAngleLimit()**

Retrieve the current rotation information of the RTS camera

**setCameraRTSRotation(float X, float Y)**

Redefine the angle of the rotation of the RTS camera

The default values are 135.0, 45.0

**Start, end = getCameraRTSRotation()**

Retrieve the current rotation information of the RTS camera



## Cameras commands (continued)

### **cutsceneMode()**

switch the current camera to the cutscene camera

### **gameMode()**

switch the current camera to the ingame camera

### **setRTSView()**

switch the ingame camera view to a RTS game type view

### **setRTSFixedView()**

switch the ingame camera view to a RTS game type view, rotation is locked

### **setRPGView()**

switch the ingame camera view to third person view type view

### **setFPSView()**

switch the ingame camera view to first person view type view

### **defineKeys(string key, string command)**

Define key ingame keyboard keys

key is a string to the keyboard key desired: ex: "A"

command is the assigned command for the key:

"FORWARD" → Move forward

"BACK" → Move backward

"LEFT" → Move on the left

"RIGHT" → Move on the right

"INVENTORY" → Open the inventory panel

"INTERACTION" → Activate the interaction (like clicking on the object)





## Sound commands

**playSound2D**(string 'filename', boolean looped)

Play the specified 2D sound, 'looped' is optional.

**playSound3D**(string 'filename', bool looped, float x, float y, float z)

Play the specified sound, at the specified coordinates. Looped is for a looping sound

**setSoundListenerPosition**(float x, int y, int z)

Define the position of the listener for a 3D sound

*Note: is now updated directly by the engine to the player position. Will need to be overridden to change the position.*

**setSoundVolume** (float volume)

Set the volume to a specified level

**stopSounds()**

Stop all sounds

## Player affecting commands

**setPlayerLife**(int life)

Set the player life to the specified value.

A change in the value will rise a "injured state" on the player

A value of 0 will set the "die" state on the player

*life* = **getPlayerLife()**

Get the current player life

**setPlayerMoney**(int money)

Set the amount of money the player will have

*money* = **getPlayerMoney()**

Retrieve the current amount of money the player have

**addPlayerItem**(string 'item')

Set a custom global callback and define a new object to use in the inventory GUI

**addPlayerLoot()**

Add the current item to the player loot. Item must be a "loot type" object.

**removePlayerItem**(string 'item')

Remove the custom callback, and remove the name from the inventory GUI

**usePlayerItem**(string 'item')

use the specified defined item (global)

'item' is a custom defined callback (global)

*count* = **getItemCount()**

return the item count from the inventory of the player



## Dialogs /GUI commands

**showBlackScreen**(string 'optional text')

Show a black screen with an optional text (mostly used when player is dead)

**hideBlackScreen**()

Remove the black screen

**showDialogMessage**(string 'message')

Show the specified message

*answer* = **showDialogQuestion**(string 'question')

Show the specified question. (note: this can only be called from within a dynamic object)

*Bool* = **getAnswer**()

Will return the answer of the dialog question. Used principally in the **OnAnswer()** callback to do an action based on the response of the Question Dialog.

## Game Commands

**saveGame**()

save the game

**loadGame**()

load back the game

### Callbacks for the global function:

These functions are for the internal use of the engine. They should not be tampered with unless you know what you are doing.

**IRBStoreGlobalParams**()

**IRBRestoreGlobalParams**()

### Misc Commands:

*x,y,z* = **getObjectPosition**(string 'objectname')

Retrieve the position of the specified object



## Dynamic objects functions:

These function can only be used inside the dynamic object, they will not work outside (ex: global scripts)

### Label management

#### **showObjectLabel()**

Display the object label

#### **hideObjectLabel()**

Hide the object label

#### **setObjectLabel(string 'newlabel')**

Define the new object label

Ex: *setObjectLabel("baddie")*

### Object type management

#### **setObjectType("type")**

Allow the developer to override the dynamic object type from LUA.

Type is a string and can contain theses values:

"interactive"

"non-interactive"

### Position/rotation management

#### **setPosition(float x,float y,float z)**

Move the object to this specified position

#### *x,y,z = getPosition()*

Give back the position of the object (x,y,z)

#### **setRotation(float x,float y,float z)**

Rotate the object to the specified angle

#### *x,y,z = getRotation()*

Give back the current angle rotation of the object (x,y,z)

#### **turn(float degrees)**

Turn relative of a specified degree angle

#### **move(float speed)**

Set the walk speed of the object

Also activate the "walk" animation state



## Position/rotation management (continued)

**walkTo(float x,float y,float z)**

Set the destination of the object and the object will walk there with the current speed defined in the XML file

Ex: **walkTo(10,0,10)**

**true/false = hasReached()**

Will tell if a walking character has reached the destination point

**lookAt(float x,float y,float z)**

The object turn to face the specified coordinates

Ex: *lookAt(10,0,10)*

**lookToObject(string 'objectname')**

The object turn to face the specified object name

## Getting information

string 'objectname' = **getName()**

Return the defined name of the template used

*distance* = **distanceFrom(float x, float y, float z)**

Give back the specified distance from the specified coordinates to the object.

*distance* = **distanceFrom(string 'object')**

Give back the specified distance from the the object to the specified object.

**setEnabled(boolean)**

Set the state of the dynamic object (enabled/disabled)

Ex: *setEnabled(false)*

*Note: Disabling a NPC will remove it from the map*

## Animation/AI specific functions

**setFrameLoop(int start, int end)**

Set the animation frameloop for the object

**setAnimationSpeed(float speed)**

set the animation speed to the specified value. (frame rate)

**setAnimation(string 'animation name')**

Set the current animation of the object to the specified animation name

ex: *setAnimation("attack")*



## Default animation names

Here are the default animation names for the specific animation states. The animation states are associated with the AI in the engine.

Using these names will trigger the proper animation state for the AI.

**idle**, set the state to *OBJECT\_ANIMATION\_IDLE*

❖ Special, must be there (xml) as this is the strict minimum for a NPC

**walk**, set the state to *OBJECT\_ANIMATION\_WALK*

❖ Used by the animation system for walking

**run**, set the state to *OBJECT\_ANIMATION\_RUN*

**attack**, set the state to *OBJECT\_ANIMATION\_ATTACK*

❖ Special, will trigger the attack if an attack event has been defined in the XML file

**hurt**, set the state to *OBJECT\_ANIMATION\_INJURED*

❖ Used by the animation/combat system for the injured state in combat

**knockback**, set the state to *OBJECT\_ANIMATION\_KNOCKBACK*

**die**, set the state to *OBJECT\_ANIMATION\_DIE*

❖ Used by the animation system/combat to show the die state

**die\_knockback**, set the state to *OBJECT\_ANIMATION\_DIE\_KNOCKBACK*

**spawn**, set the state to *OBJECT\_ANIMATION\_SPAWN*

**despawn**, set the state to *OBJECT\_ANIMATION\_DESPAWN*

**despawn\_knockback**, set the state to *OBJECT\_ANIMATION\_DESPAWN\_KNOCKBACK*



## Dynamic objects: (properties and combat)

Current properties names:

Property name		Description
life	-->	Current life points
mana	-->	Current mana points
maxlife	-->	Maximum life points
regenlife	-->	Points of life regeneration
regenmana	-->	Points of mana regeneration
money	-->	Current money
level	-->	Current level
experience	-->	Current experience (or given experience if NPC)
mindamage	-->	minimum damage per hit
maxdamage	-->	maximum damage per hit
armor	-->	armor point
magic_armor	-->	magic armor point
hurt_resist	-->	hurt resistance probability
dotduration	-->	duration for the dot (damage over time, poison)
hit_prob	-->	probability of hitting the target
dodge_prob	-->	probability of dodging the hit from the attacker
mindefense	-->	minimum defense points
maxdefense	-->	maximum defense points

### Current properties and combat commands:

#### **setEnemy()**

This object will become an enemy of the player

#### **setObject()**

This object will become an object (non-aggressive) (default)

#### **getEnemyCount()**

Will return the number of active enemies on the map

#### **setProperty** (string 'property name', float value)

This will set the named property to the value entered

Ex: `setProperty("life",100)`

#### float value **getProperty**(string 'property name')

Give back the entered value from the named property entered

Ex: `value = getProperty("life")`

#### **addLoot**(string "Template name")

Add a template (should be a loot template to work), inside the current object backpack directly. It can be a NPC or the player.

#### string name **Spawn**(string "template name", x, y, z, r)

create a new dynamic object on the map, x,y and z are for the position

and r is for the rotation of the element. Once created, the function return the name of the new dynamic object.

#### **attack**(string 'enemy name')

This will trigger the combat system to do a battle with the current object and the object entered. The combat system will check the properties of each opponent and do damages on the defender.

This will not check of the faction, nor the distance.

Ex: `attack("player")`



## Special Variables

**ObjName** = NAME OF THE OBJECT

**objType** = *ENEMY* or *OBJECT*

## Callbacks:

**onLoad()**

Called when the object is loading in the game

**onRefresh()** or **step()** -- old name

Called at each interval (default interval is 1/4 sec)

**onClicked()**

Called when the object has been clicked on with the mouse

**onCollision()**

Called when a collision occurs with the object

**onAnswer()**

Called when the user responds to the Question Dialog. The answer returns only to the dialog caller. *Ex:* If the player is invoking the question dialog, only him will receive the answer.

**onUse()**

Called when the user selects an item from the backpack inventory and presses the USE button

**CustomDynamicObjectUpdate()**

**CustomDynamicObjectProgrammedAction()**

