Cheatography

Pico-8 V2 Cheat Sheet

by Zoltan via cheatography.com/35548/cs/18960/

Commandline Parameters

width n	Set the window width
height n	Set the window height
windowed n	Set windowed mode off (0) or on (1)
sound n	Sound volume 0..256
music n	Music volume 0..256
joystick n	Joystick controls starts at player n (0..7)
pixel_perfect n	1 for unfiltered screen stretching at integer scales (on by default)
draw_rect x,y,w,h	Absolute window coordinates and size to draw pico-8's screen
run filename	Load and run a cartridge
x filename	Execute a pico-8 cart headless and then quit
p param_str	Pass a parameter string to the specified cartridge
splore	Boot in splore mode
home path	Set the path to store config.txt and other user data files
desktop path	Set a location for screenshots and gifs to be saved
screenshot_scale n	Scale of screenshots. default: 3 (368x368 pixels)
gif_scale n	Scale of gif captures. default: 2 (256x256 pixels)
gif_len n	Set the maximum gif length in seconds (1..120)
gui_theme n	Use 1 for a higher contrast editor colour scheme
timeout n	How many seconds to wait before downloads timeout (default: 30)
software_blit n	Use software blitting mode off (0) or on (1)
foreground_sleep_ms n	How many milliseconds to sleep between frames
background_sleep_ms n	How many milliseconds to sleep between frames when running in background

these override settings found in config.txt

Screenshots, Videos and Cartridge Labels

F6	Save a screenshot to desktop
F7	Capture cartridge label image
F8	Start recording a video
F9	Save GIF video to desktop (max: 8 seconds by default)

-if F6..F9 are not available on your system, use CTRL-6..9
-You can save a video at any time (it is always recording). Use F8 just to reset
the video starting point if you want something less than 8 seconds long

Graphics

clip [x y w h]	Sets the screen's clipping region in pixels clip() to reset
pget x y	Get the colour (c) of a pixel at x, y
pset x y [c]	Set the colour (c) of a pixel at x, y

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Graphics (cont)

sget x y	Get the colour (c) of a spritesheet pixel	
sset x y [c]	Set the colour (c) of a spritesheet pixel	
fget n [f]	Get the value (v) of a sprite's flag	
fset n [f] v	Set the value (v) of a sprite's flag	
print(str, [x,] [y,] [c])	Prints a string of characters to the screen	
cursor x y	Set the cursor position and carriage return margin	
color c	Set the default color to be used by drawing functions	
cls [c]	Clear the screen and reset the clipping rectangle	c is the background color. The default is 0 (black).
camera [x y]	Set a screen offset of -x, -y for all drawing operations	camera() to reset
circ x y r [c]	Draw a circle at x,y with radius r	
circfill x y r [col]	Draw a filled circle at x,y with radius r	
line x0 y0 x1 y1 [c]	Draw a line	
rect x0 y0 x1 y1 [c]	Draw a rectangle	
rectfill x0 y0 x1 y1 [c]	Draw a filled rectangle	
pal c0 c1 [p] (1)	Draw all instances of colour c0 as c1 in subsequent draw calls	pal() to reset to system defaults
palt c t	Set transparency for colour index to t (boolean)	Transparency is observed by spr(), sspr() and map()
spr n x y [w h] [flip_x] [flip_y]	Draw sprite n at position x,y,width and height are 1,1 by default	
sspr sx sy sw sh dx dy [dw dh] [flip_x] [flip_y]	Draws a rectangle of pixels from the sprite sheet, optionally stretching the image to fit a rectangle on the screen	
fillp p	Sets the fill pattern, observed by: circ() circfill() rect() rectfill() pset() line()	

params in [] are optional
f is the flag index 0..7
v is boolean and can be true or false
c is color
(1) Two types of palette (p defaults to 0)
0 draw palette, colours are remapped on draw //e.g to re-colour sprites
1 screen palette, colours are remapped on display //e.g for fades

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Tables

add t v	Add value v to the end of table t	
del t v	Delete the first instance of value v in table t	
all t	Used in FOR loops to iterate over all items in a table	FOR V IN ALL(T) DO PRINT(V) END
foreach t f	For each item in table t, call function f with the item as a single parameter	FOREACH(T, PRINT)
pairs t	Used in FOR loops to iterate over table t, providing both the key and value for each item	

Input

btn [i [p]]	Tests if a button is being pressed at this moment
btnp [i [p]]	Tests if a button has just been pressed, with keyboard-style repeating

i is the button number
p is the player number

Audio

sfx n [channel [offset [length]]]	Plays a sound effect n
music [n [fade_len [channel_mask]]]	Plays a music pattern, or stops playing

Map

mget x y	Gets the sprite number assigned to a cell on the map
mset x y v	Sets a cell on the map to a new sprite number
map cel_x cel_y sx sy cel_w cel_h [layer]	Draw a section of the map (in cels) at screen position sx, sy (in pixels)

Math

max x y	Returns the maximum of two numbers
min x y	Returns the minimum of two numbers
mid x y z	Returns the middle of three numbers
flr x	Returns the integer portion (the "floor") of a number
ceil x	Returns the next highest integer (the "ceiling") of a number
cos x	Calculates the cosine of an angle
sin x	Calculates the sine of an angle
atan2 dx dy	Converts dx, dy into an angle from 0..1
sqrt x	Calculates the square root of a number
abs x	Returns the absolute value of a number
rnd x	Generates a random number between 0 and the given maximum
srand x	Initializes the random number generator with an explicit seed value

Angle x measured clockwise and is between 0.0 .. 1.0

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Strings

length	print(#s) --> 19
joining strings	print("three "..4) --> "three 4"
sub() to grab substrings	print(sub(s,5,9)) --> "quick"

s = "the quick brown fox"

Types

type val	Returns the basic type of a given value as a string	print(type(1)) -- "number"
tostr val [hex]	Converts a non-string value to a string representation	s = 'v: '..tostr(12345) -- 'v: 12345'
tonum val	Converts a string representation of a decimal, hexadecimal, or binary number to a number value	

hex - if hex is true and val is a number, an unsigned hexadecimal writing of the number is returned in the format "0x0000.0000"

Binary Operations

band x y	Calculates the bitwise AND of two numbers	print(band(0x7, 0xd)) -- 5
bor x y	Calculates the bitwise OR of two numbers	print(bor(0x5, 0x9)) -- 13 (0xd)
bxor x y	Calculates the bitwise XOR of two numbers	print(bxor(0x5, 0x9)) -- 12 (0xc)
bnot x	Calculates the bitwise NOT of a number	print(bnot(0xb)) -- -11 (0 - 0xb)
rotl x y	Rotates the bits of a number to the left	print(rotl(8, 3)) -- 64
rotr x y	Rotates the bits of a number to the right	print(rotr(64, 3)) -- 8
shl x n	Shifts the bits of a number to the left	print(shl(1, 3)) -- 8
shr x n	Shifts the bits of a number to the right	print(shr(8, 3)) -- 1
lshr x n	Shifts the bits of a number to the right, using logical shift	print(lshr(8, 3)) -- 1

Coroutines

cocreate f	Create a coroutine for function f	
coresume c [p0 p1 ..]	Run or continue the coroutine c. Parameters p0, p1.. are passed to the coroutine's function	Returns true if the coroutine completes without any errors
costatus c	Return the status of coroutine c as a string	"running", "suspended", "dead"
yield	Suspend execution and return to the caller	
assert(cond, [message])	Causes a runtime error if a conditional expression is false	
stop([message,] [x,] [y,] [c])	Stops the program's execution and returns to the command prompt	

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