A Sonic Pi Workshop For Kids

by Stefan Höhn, Irene Höppner und Matthias Malstädt

Buffer 0

Use Buffer 0 in Sonic Pi

```
play 60
sleep 1
```

Play and wait

80 60 62 64 65 20
67 69 71 72
:c4 :d4 :c5 :d5


```
play :c4
play :e4
play :g4
sleep 1
```

Play a chord (triad)

c5 e5 g5 f4 a4 c5 g4 a4 d5

BUFFER 1

Use Buffer 1

play_chord [:c4, :e4, :g4]
sleep 1

Multiple tones at the same time a re challed chords. This way is easier than before. It‘s a C-chord.

c5 e5 g5 **f4 a4 c5** **g4 a4 d5**

play_chord chord(:e4, :major)
sleep 1

Major , Minor – Do you notice the difference?

:a4 **:h4** **:major7** **:minor**

3 Chords with a second distance (use e, a and b minor)

BUFFER 2

Use Buffer 2

play_pattern (scale :c4, :major)

Play a a pattern (multiple tones in a sequence) – here we a play a scale

:major **:major_pentatonic** **:minor_pentatonic** **:minor**

use_bpm 120
play_pattern (scale :e4, :minor)

Use a different speed. b p m = beats per minute

50 **240** **400** **100** **600**

:major **:major_pentatonic** **:minor_pentatonic** **:minor**

```
use_bpm 600
2.times do
  play_pattern (scale :e4, :minor)
end
```

2mal

2 times. We call this a loop.

3.times **5.times**

```
live_loop :tonleiter do
  use_bpm 120
  play_pattern (scale :e4, :minor)
end
```

We call this an endless/infinite loop

Change to 480. **Press Run and listen to when it changes. Immediately?**

```
use_synth :saw
```

How about a different sound for our synthesizer?

:dsaw **:mod_dsaw** **:prophet** **:piano**
:blade **:tb303**


```
play_pattern (scale :e4, :minor)
play_pattern (scale :e4, :minor).reverse
```

And now we play the scale backwards

BUFFER 3


```
live_loop :geblubber do
  use_bpm 240
  play_pattern (scale :e4, :minor).choose
  sleep 1
end
```

Choose selects one tone randomly out of a set of tones. One a time only.

-*play* only plays one note (compare to *play_pattern* that plays many)
-*choose* selects a random one out of a set of notes

BUFFER 4

Use Buffer 4

```
live_loop :schlagzeug do
        sample :bd_haus
        sleep 1
end
```

An endless loop that can be changed during playing

Add another sample *sn_zome* with *sleep 1*

Make the drums faster (120)

:drum_bass_hard :drum_snare_hard :drum_tom_hi_hard

BUFFER 5

Use Buffer 5

```
live_loop :melodie do
    sample :guit_em9
    sleep 2
end
```

An electric guitar sample

Tryout and then copy the drums (buffer 4) and the melody together in to buffer 5

- Now put everything together in buffer 6
- First Buffer 5, then buffer 3 and then 2
- Run again after each copying and listen
- The copy buffer 1 and add a live_loop.
- Something isn‘t quite right yet. What is it?

Use Size- and Size +. To change the size of the text

use_bpm **use_synth :hollow** **,amp: 5**

use_synth: hoover

More ideas

- Work on the drums
- Play around with melodies
- Effects
- What about variables and conditions?


```
a = 30
if a < 100
  a = a +1
  play a
else
  a = 30
end
```


Add around a live_loop and listen. What happens here?

```
live_loop :withReverv do
  with_fx :reverb, room: 0.9 do
    play_pattern (scale :e4, :minor)
  end
end
```

That‘s how you can apply effects

- **fx stands for „effects“. Each effect has its parameters: here the size of the room of the reverb.**
- **Try other effects (see fx in help section)**
- **Use play and choose and a speed of 300**

Cheat sheet

play 60

sleep 1

play :c4 ← a scale = c,d,e,f,g,a,b,c

play_chord [:c4, :e4, :g4]

play_chord chord(:e4, :major) → major, minor…

play_pattern (scale :e4, :minor) → .reverse

play (scale :e4, :minor).choose

use_bpm 600

use_synth :hollow → saw, hoover, piano

```
2.times do
  ...
end
```

```
live_loop :myEndlessLoop do
  ...
end
```

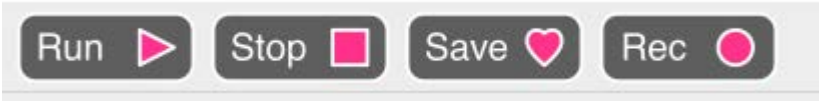
sample :bd_haus → :guit_em9 ...

Cheat sheet

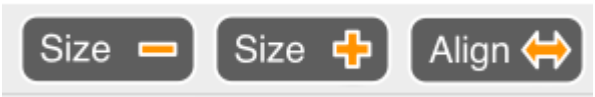
Keyboard shortcuts

ALT-R	Run	ALT-A	Mark all
ALT-S	Stop	ALT-C	Copy
		ALT-V	Insert
STRG-I	Help for the current command		

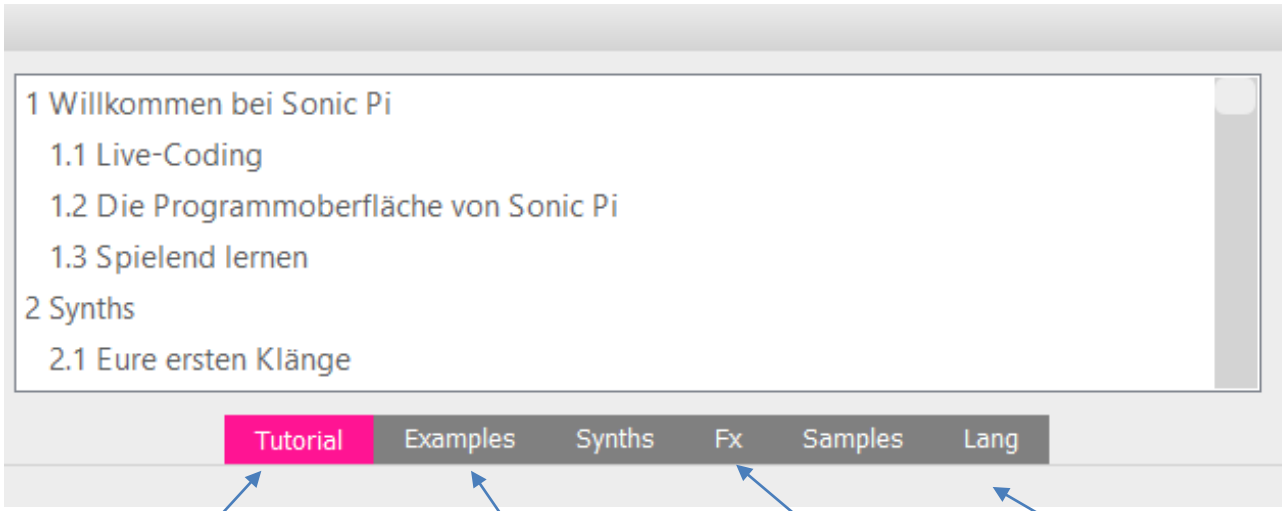
Buttons



Start Song	Stop Song	Save Song	Record Music



Decrease Text	Increase	Format text in a nicer way



Manual for at home — Cool examples — Effects — All commands

Cheat sheet

use_synth

Tutorial | Examples | **Synths** | Fx | Samples | Lang

beep	blade	bnoise	cnoise	dark_ambience		
dpulse	dsaw	dull_bell	fm	gnoise	growl	
hollow	hoover					
mod_beep	mod_dsaw	mod_fm				
mod_pulse	mod_saw		mod_sine	mod_tri		
noise	piano	pnoise	pretty_bell	prophet	pulse	
saw	sine	square	subpulse	tb303	tri	zawa

samples

Tutorial | Examples | Synths | Fx | **Samples** | Lang

:elec_triangle
:elec_snare
:elec_lo_snare
:elec_hi_snare
:elec_mid_snare
:elec_cymbal
:elec_soft_kick
:elec_filt_snare
:elec_fuzz_tom
:elec_chime
:elec_bong
:elec_twang
:elec_wood
:elec_pop
:elec_beep
:elec_blip
:elec_blip2
:elec_ping
:elec_bell
:elec_flip
:elec_tick
:elec_hollow_kick
:elec_twip
:elec_plip
:elec_blup

:misc_burp
:perc_bell
:perc_snap
:perc_snap2

:guit_harmonics
:guit_e_fifths
:guit_e_slide
:guit_em9

:bd_ada
:bd_pure
:bd_808
:bd_zum
:bd_gas
:bd_sone
:bd_haus
:bd_zome
:bd_boom
:bd_klub
:bd_fat
:bd_tek

:bass_hit_c
:bass_hard_c
:bass_thick_c
:bass_drop_c
:bass_woodsy_c
:bass_voxy_c
:bass_voxy_hit_c
:bass_dnb_f

:ambi_soft_buzz
:ambi_swoosh
:ambi_drone
:ambi_glass_hum
:ambi_glass_rub
:ambi_haunted_hum
:ambi_piano
:ambi_lunar_land
:ambi_dark_woosh
:ambi_choir

:ambi_soft_buzz
:ambi_swoosh
:ambi_drone
:ambi_glass_hum
:ambi_glass_rub
:ambi_haunted_hum
:ambi_piano
:ambi_lunar_land
:ambi_dark_woosh
:ambi_choir

:drum_heavy_kick
:drum_tom_mid_soft
:drum_tom_mid_hard
:drum_tom_lo_soft
:drum_tom_lo_hard
:drum_tom_hi_soft
:drum_tom_hi_hard
:drum_splash_soft
:drum_splash_hard
:drum_snare_soft
:drum_snare_hard
:drum_cymbal_soft
:drum_cymbal_hard
:drum_cymbal_open
:drum_cymbal_closed
:drum_cymbal_pedal
:drum_bass_soft
:drum_bass_hard
:sn_dub
:sn_dolf
:sn_zome

:loop_industrial
:loop_compus
:loop_amen
:loop_amen_full
:loop_garzul
:loop_mika
:loop_breakbeat