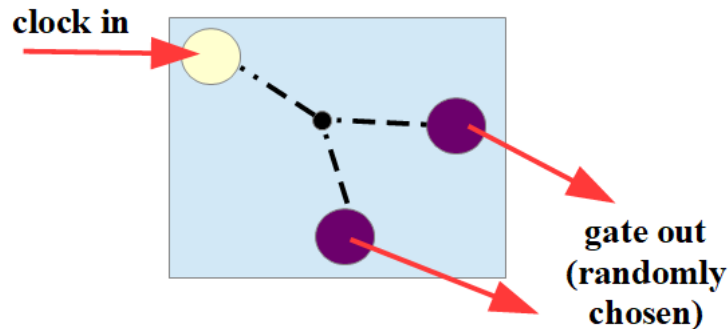
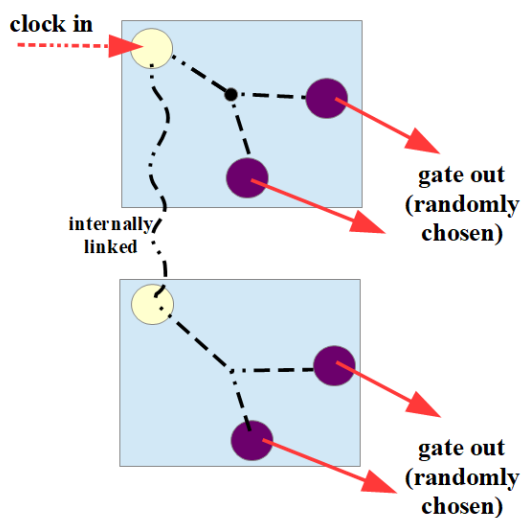


Chapter 1.3.9: Bernoulli Gates

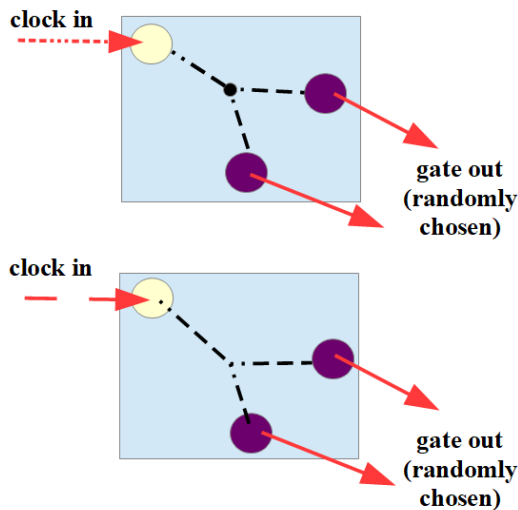
Bernoulli gates could well have been a part of chapter 1.3.8, because a Bernoulli gate is nothing else than one random gate, which randomly chooses between only 2 outputs. It's like tossing a coin.



Yes, they could – if there wasn't Mutable Instruments and their module "Branches". This module is such a classic, that it deserves a little chapter of its own (even if this is not the part of the book, where I discuss certain modules actually).



"Branches" contains 2 Bernoulli gates, both "toss their coins" independently, but at the same clock input. One clock input generates two independent coin tosses at the same time therefore. But when I input two different clock inputs, then each of the two Bernoulli gates listens only to its own clock input.

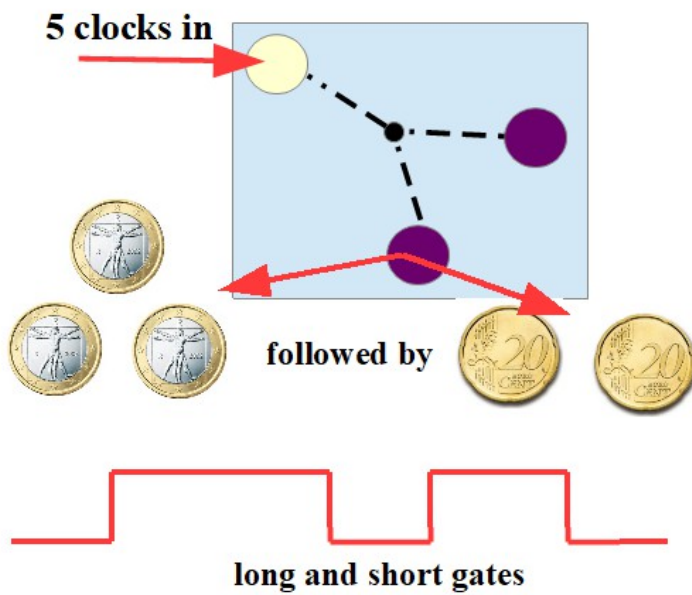


We can adjust the probability for each coin toss more to the left or more to the right output (with 100% either way there is no randomness any more), and we can even modulate this probability via CV.

There is a special mode called “toggle”. In toggle mode “Branches” continues sending the trigger impulses to one and the same output as long as the “coin” doesn’t fall at the opposite side, and in a third mode called “latch” the CV level at an output stays high as long as the “coin” doesn’t fall at the opposite side. In this latch mode the output of “Branches” send “gate open” levels of randomly different lengths. The VCV rack version of “Branches” doesn’t offer toggle mode. The following image shows an example of 5 “coin tosses” (five incoming clocks).

And the preset “bernoulli.vcv” (available only in the e-book – see <https://dev.rofilm-media.net>) and the video behind the following link show some more examples, and may serve as a “base camp” for experiments of your own.

<https://youtu.be/y4D98tu1w5I>



Alright!

And now go and set up your “random-pseudo random-not random at all-different probability” network as complex as hell and modulate hm, modulate what?

Exactly this question I’m going to answer in the next chapter, in chapter 2 now.

... to be continued