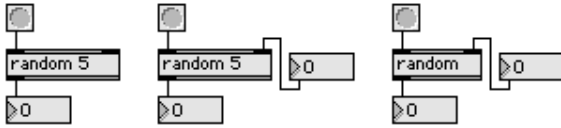


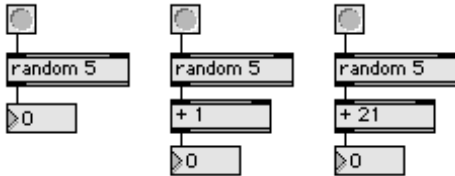
Composition: Electronic Media II
February 4, 2008
The Random Object in Max/MSP

1. The **random** object:



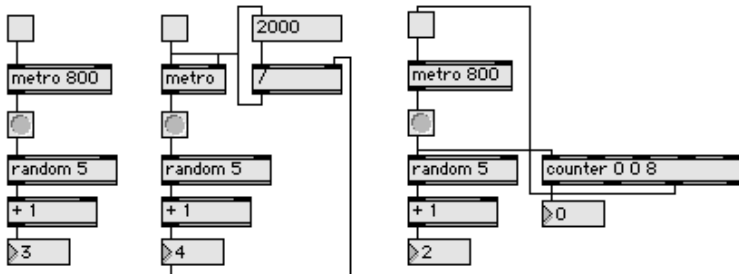
- The **random** object is triggered by a bang.
- The argument "5" can be written in the object or sent to the right inlet from a number or other sources that output numbers.

2. The **random** object output:



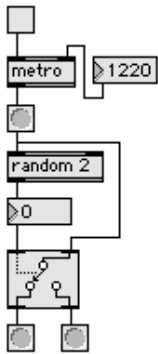
- The left patch outputs numbers 0-4.
- The middle patch outputs numbers 1-5.
- The right patch outputs numbers 21-25.

3. **Metro** control of **random** outputs:



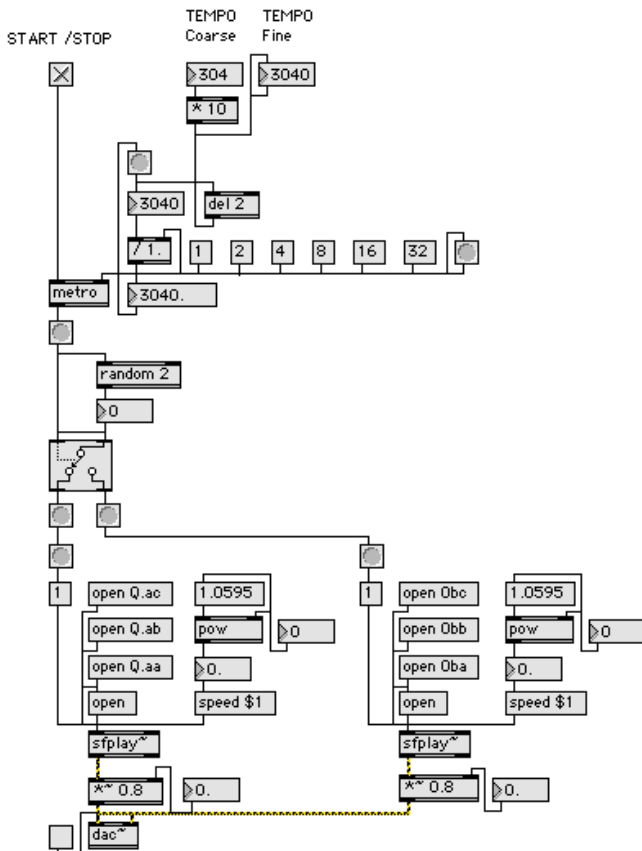
- The left patch outputs a number from 1-5 every 800 milliseconds. This allows one to control the rate at which a random number is generated.
- The middle patch outputs a number from 1-5 after 2000/1 ms, 2000/2 ms, 2000/3 ms, 2000/4 ms, or 2000/5 ms. This allows one to randomize the time at which random numbers are generated.
- The left patch outputs 9 numbers from 1-5 at a rate of one every 800 milliseconds.

4. A patch in which outlets of **Gswitch2** are randomly toggled every 1220 milliseconds:



- A bang triggered by **metro** passes through the right inlet of **Gswitch2**.
- The “random 2” patch randomly generates number 0-1, shown in the number box.
- The outlet of the number box is patch to the left inlet of **Gswitch2**.
- The number 0 selects the left outlet and the number 1 selects the right outlet.
- Thus, the metro sends a bang to the bottom left bang button when 0 is generated. It sends a bang to the bottom right bang button when 1 is generated.
- The bottom bang buttons can trigger many events. For example, the left bang can trigger a low percussive sound and the right bang button can trigger a high percussive sound. As another example, the left bang button can trigger pitches from hexachord 1 and the right bang button can trigger pitches from hexachord 2. Furthermore, this kind of patch can be used to create a network of choices, sometimes called a “decision tree.”

5. This patch has a **random** object to select which set of sounds will be triggered by the **metro** object.



- The tempo of the **metro** object is controlled by two number boxes. First box, labeled “coarse,” is multiplied by 10. This makes it easier to slide the number box up and down, since the increments are multiples of 10. The second box, labeled “fine,” allows the user to select finer increments of tempo. Notice that this number box has a coarse input. This causes the “fine” number box to be updated as the “coarse” number box changes value.
- Notice the “random 2” object that controls the **Gswitch2** gate, which in turn allows the bang messages to trigger the set of soundfiles on the left or on the right.