**Composition: Electronic Media II**
**Spring 2009**
Prepend, Append, Sprintf

1. In Max, the text of a message box can be created algorithmically. The name-generating patch in Assignment 2 is an example of this. In creating a such a patch, three objects are used: prepend, append, and sprintf.

2. To create a message box that displays an algorithmically-generated text, create a patch like the one below:
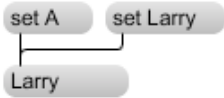

   a. The word set tells the message box that a string of characters will be displayed.
   b. A number box cannot be used in this patch, since the word "set" must precede the number.

3. To create a message box that displays an algorithmically-generated text or number, create a patch like the one below:

   a. The prepend object followed by the word set will send a message "set A", "set Larry", "set 5".
   b. The message box that receives such a message will display the characters that follow the word "set"

4. Max 5 adopts a new alternative approach that we won't use in order to avoid confusion, as will be discussed in class.

5. The append object will append a string of characters to a message, as is attempted to be shown below:
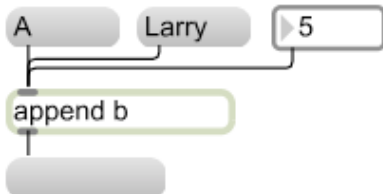
   a. Notice that no text appears in the message box at the bottom of the patch. This is because the word "set" must precede any string of characters sent to the message box.
   b. The patch below shows the solution to this problem:
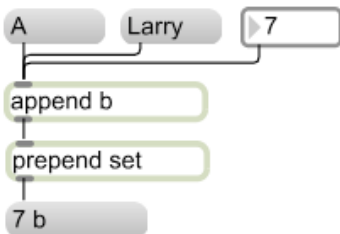
c. The appended string can also be algorithmically determined, as shown below:

```
A          Larry      ▶4        set a     set b
```

```
append
```

```
prepend set
```

```
4 a
```

d. The order in which these messages are triggered is important. In the discussion below, we will try to make order independent by using a del object, just as we have done with math operations.

6. Notice that the message box above displays 2 characters separated by a space. The space can be removed with the sprintf object, as shown below:

```
7 b
```

```
sprintf %s%s
```

```
prepend set
```

```
7b
```
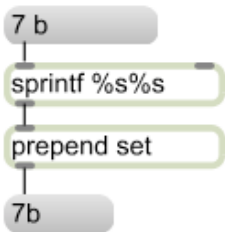
a. Notice the syntax, where one instance of "%s" is used for each string to be joined. Since there are 2 strings in the message box "7 b", 2 instances of "%s" are used.

b. As shown below, 3 strings separated by spaces are joined when 3 instances of "%s" are used:

```
7 b Larry
```

```
sprintf %s%s%s
```

```
prepend set
```

```
7bLarry
```
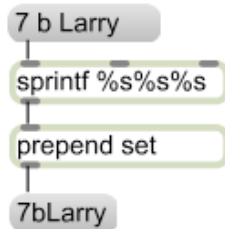
7. The name-generating patch in Assignment 2 combines these objects to create a message box that reads "open Ac", "open Bd", etc. This patch is shown below:
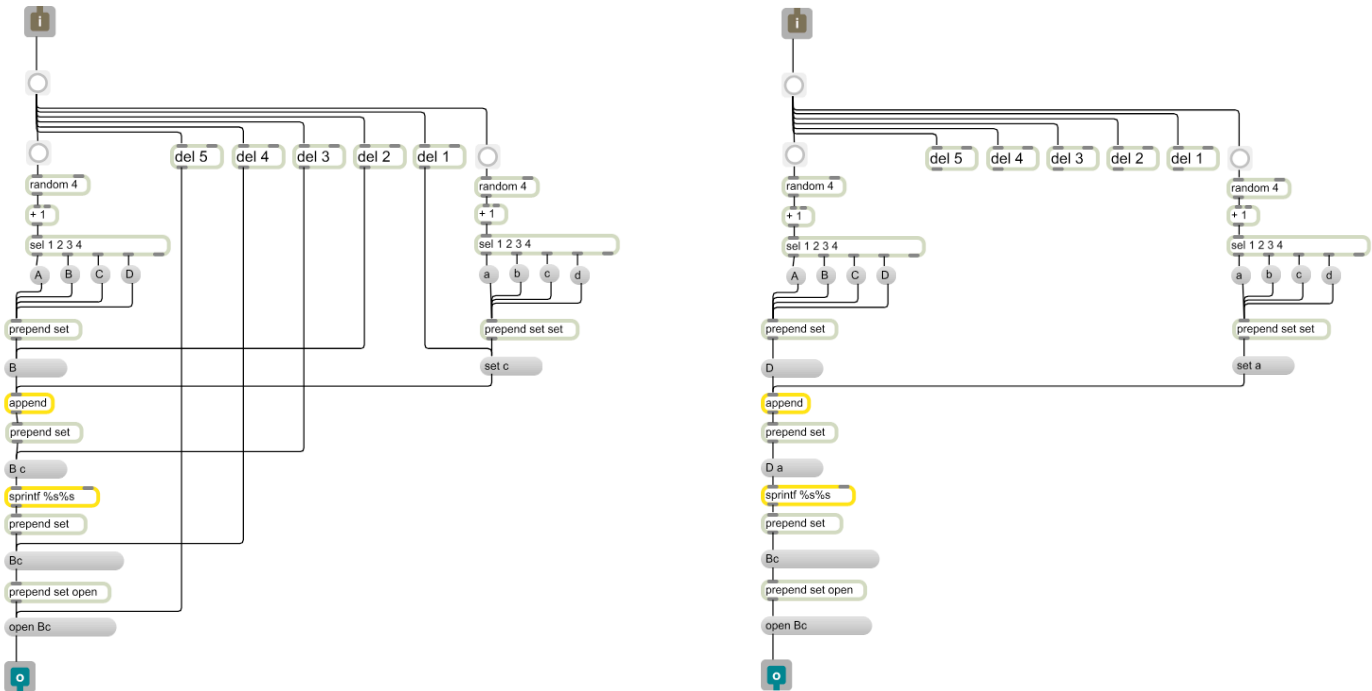
a. The patch on the left is the complete patch, with all connections made.
b. The patch on the right is the same as the one on the left, except the del objects have not been connected.
c. Comparing these two patches allows you to see how the del objects are patched.
d. The del objects are used to trigger the message boxes after they have received a string of characters.