**Randomly Ordering Objects**

In this case, the objects to be randomly ordered are students in my PSYC 7433 class. Each will be making [a presentation](http://core.ecu.edu/psyc/wuenschk/R-Presentation.htm), and I want to use a random process to order the presentations. The observations are the names of the students They are input in alphabetical order. Note the use of the Length statement to set the length of the alphanumeric variable “Name” to 9 characters. The “uniform” function is used to associate with each name a random number from a uniform distribution that ranges from 0 to 1. The names are then sorted by those random numbers to yield the order in which the students will give their class presentations.

**data** numbers;

Length Name $ **9**;

input Name $;

X = uniform(**0**);

cards;

Foster

Fox

Layh

Meier

Nethercutt

Reichart

Selensky

Vincent

**proc** **sort**; by X; **proc** **print**; **run**;

| **Obs** | **Name** | **X** |
| --- | --- | --- |
| **1** | Selensky | 0.11088 |
| **2** | Vincent | 0.24603 |
| **3** | Reichart | 0.36295 |
| **4** | Nethercutt | 0.47467 |
| **5** | Fox | 0.54270 |
| **6** | Layh | 0.62457 |
| **7** | Foster | 0.82909 |
| **8** | Meier | 0.97346 |

Here is the schedule of presentations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | First Presenter | Second Presenter | Third Presenter | Fourth Presenter |
| November 26 | Selensky | Vincent | Reichart | Nethercutt |
| November 28 | Fox | Layh | Foster | Meier |

One year, after having prepared the schedule, two additional students registered for the class. I randomly assigned each to presentation position between 1st and 18th, using this code:

**data** numbers;

Length Name $ **9**;

input Name $;

X = **.5**+**18**\*uniform(**0**);

cards;

Ellis

Knight

**Proc** **Print**; **run**;

| **Obs** | **Name** | **X** |
| --- | --- | --- |
| **1** | Ellis | 3.40005 |
| **2** | Knight | 7.08456 |

Ellis was inserted in position 3 and Knight in position 7. Later the same procedure was employed to schedule our 19th student. Two of the three students scheduled to present on the first day of presentations dropped the class, and then I moved the one other to a blank spot a bit later.

There is, of course, more than one way to skin a cat. In a previous year I had 13 students’ names in an Excel file. I used the following program to produce 13 random numbers:

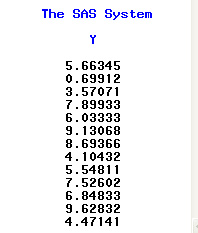
**DATA** YS; Keep Y;

DO K=**1** TO **13**; Y=**10**\*UNIFORM(**0**);OUTPUT;

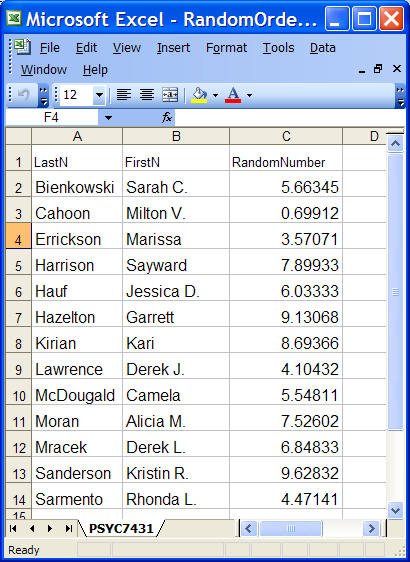
END;

**Proc** **Print** NoObs; **run**;

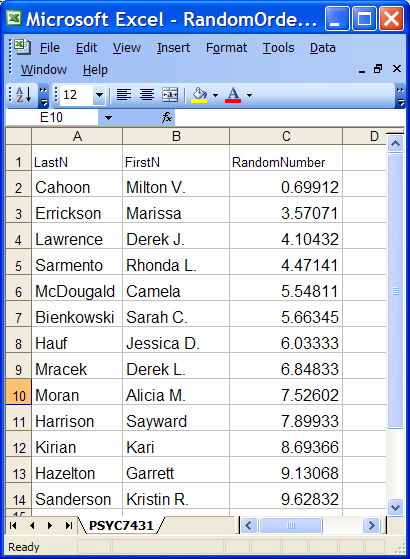
Here is the output:



Then I copied this column of random numbers into an Excel spreadsheet aside the names of my students:



Then I sorted the file by the random numbers:



Milton was up first, Kristin last.

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