Random Numbers for Student Submissions

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Generating Random Numbers

Geneating 5 digit random numbers

We have generated five digit random numbers for everyone. Using the function `sample()`, we created a vector of values that are then coerced into a matrix with 5 columns and the number of rows equal to the number of students enrolled in the course.

Before calling the `sample()` function, we set the "seed". As it turns out R does generates psuedo-random numbers. Using the computer clock, R selects pre-defined random numbers in a table based on time when the line is run by R. By setting the seed, we geneate the same set of random numbers each time the function is called. This is useful because I don't want to create new numbers everytime I run the code – then we would all be confused about who has what number!

```
# set the seed of psuedo-random numbers
set.seed(444)

# create a metrix of random numbers without replacement with 5
# columns and the number of rows equal to the number of students
# enrolled in the course.
rnumbers = matrix(sample(10000:99999, 5* enrollment, replace= FALSE),
          nrow=enrollment, ncol=5, byrow=T)
```

Then, we combined the random numbers with our roster, so each of you have been assigned 5 of these random numbers.

How to use your random numbers

For selected assignments, please avoid putting your name on the submission and include ONE of the random numbers (Table 1). It doesn't matter which one, but I have noticed that if you use a simple one, I might be able to match the number with the person. So, I recommend changing which number you use at various times.

Table 1: Random Numbers for EA30, Spring 2024

	Last	First	1	2	3	4	5
1	Abate	Julia	87666	33952	47801	79207	28554
2	Ball	Hadley	96640	24942	68525	68925	27531
3	Basil-Porter	Derek	94361	23574	84998	63102	51050
4	Carmona Cornejo	Alicia	40809	38211	80470	17400	31569
5	Chen	Kai	97517	53220	19033	39146	86197
6	Coyne	Carolyn	56149	22237	83891	11895	49719
7	Eichberg	Ella	21072	87336	54360	40258	71214
8	Fiero	Annabel	19890	41571	37499	33528	52355
9	Fourli	Thalia	88963	92675	99102	47528	69615
10	Frank	Willa	96643	72042	82173	41086	28402
11	Greer	Isabella	40740	11786	99315	62792	84947
12	Howes	Tinto	87609	36621	45393	30799	70696
13	Hughes	Hannah	32008	89012	14844	60318	42626
14	Huxol	Camille	13344	54998	63009	63285	16638
15	Johnson	Hadley	60081	64750	96416	64231	50597
16	Lehrich	Willow	96481	65057	96129	33563	17048
17	Nonaka	Xander	74858	12717	86090	33087	88600
18	Pan	Mulan	28711	58427	82560	47426	19346
19	Patrick	William	99835	38324	35352	71568	58872
20	Sanchez	Sofia	15296	59432	27794	25432	42030
21	Shaikh	Wali	80296	96053	48469	45950	95191
22	Stanton	Shelby	96779	80361	36920	69743	22553
23	Toussaint-Farrell	Zumaya	89431	70913	59031	70972	87975
24	Wu	Anna	34665	73983	74397	53087	15154
25	Yee	Miranda	77980	87449	69167	81268	98862

Some Probability Questions

Question: What are the chances that two or more people might have the same random number? Answering this is something taught in a probability course, which provides a foundation for all statistics.