

What are *random numbers*? They are the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 scrambled in a particular fashion. Table 5-1 is an example of a table of random numbers. The various digits are arranged in such a way that all digits appear with approximately the same frequency in the table. Furthermore any given digit has no relationship to the digit above, below, to the right, or to the left of it. In other words, the various digits are scattered at random. However, for convenience, 40 digits, in groups of five, are placed on each line.

A practical sampling problem will best illustrate the use of the table of random numbers in selecting a simple random sample. Let us assume that we wish to select 10 accounts receivable from a ledger containing 6532 accounts.

As a first step, we must assign a serial number to each account in the ledger—in our case, a four-digit serial number. (If the number of accounts in the ledger had been 623, we would have assigned a three-digit serial number to each account. Thus the number of digits of which a serial number consists depends on the total number of accounts in the ledger.) We now assign 0001 to the first account, 0002 to the second account, 0123 to the 123rd account, and 6532 to the last account. Once all accounts in the ledger are serialized, we can begin to select our sample by reading the first four digits from the first line of the table of random digits. The number is 7899. Since no account in the ledger corresponds to this number, we move down and read the first four digits of the second line. The number 0490 corresponds to the 490th account in the ledger, which becomes our first account in the sample. Continuing in the same fashion, we obtain the other nine accounts:

4658, 2924, 1715, 5071, 3944, 0102, 0833, 3970, 2590.

(Note that when a serial number appears twice, it must be ignored on the second appearance.)

The table of random numbers could have been used in some other manner. We could have read our first four digits from any place in the table. Furthermore, in selecting our second four digits, we could have moved sideways or crosswise, so long as our movement remained systematic.

Table 5-1

An illustrative page of random numbers

Line	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	78994	36244	02673	25475	84953	61793	50243	63423
2	04909	58485	70686	93930	34880	73059	06823	80257
3	46582	73570	33004	51795	86477	46736	60460	70345
4	29242	89792	88634	60285	07190	07795	27011	85941
5	68104	81339	97090	20601	78940	20228	22803	96070
6	17156	02182	82504	19880	93747	80910	78260	25136
7	50711	94789	07171	02103	99057	98775	37997	18325
8	39449	52409	75095	77720	39729	03205	09313	43545
9	75629	82729	76916	72657	58992	32756	01154	84890
10	01020	55151	36132	51971	32155	60735	64867	35424
11	08337	89989	24260	08618	66798	25889	52860	57375
12	76829	47229	19706	30094	69430	92399	98749	22081
13	39708	30641	21267	56501	95182	72442	21445	17276
14	89836	55817	56747	75195	06818	83043	47403	58266
15	25903	61370	66081	54076	67442	52964	23823	02718

(continued)

Simple Random Sample

Table 5-1 (Continued)

Line	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
16	71345	03422	01015	68025	19703	77313	04555	83425
17	61454	92263	14647	08473	34124	10740	40839	05620
18	80376	08909	30470	40200	46558	61742	11643	92121
19	45144	54373	05505	90074	24783	86299	20900	15144
20	12191	88527	58852	51175	11534	87218	04876	85584
21	62936	59120	73957	35969	21598	47287	39394	08778
22	31588	96798	43668	12611	01714	77266	55079	24690
23	20787	96048	84726	17512	39450	43618	30629	24356
24	45603	00745	84635	43079	52724	14262	05750	89373
25	31606	64782	34027	56734	09365	20008	93559	78384
26	10452	33074	76718	99556	16026	00013	78411	95107
27	37016	64633	67301	50949	91298	74968	73631	57397
28	66725	97865	25409	37498	00816	99262	14471	10232
29	07380	74438	82120	17890	40963	55757	13492	68294
30	71621	57688	58256	47702	74724	89419	08025	68519
31	03466	13263	23917	20417	11315	52805	33073	07723
32	12692	32931	97387	34822	53775	91674	76549	37635
33	52192	30941	44998	17833	94563	23062	95725	38463
34	56691	72529	66063	73570	86860	68125	40436	31303
35	74952	43041	58869	15677	78598	43520	97521	83248
36	18752	43693	32867	53017	22661	39610	03796	02622
37	61691	04944	43111	28325	82319	65589	66048	98498
38	49197	63948	38947	60207	70667	39843	60607	15328
39	19436	87291	71684	74850	76501	93456	95714	92518
40	39143	64893	14606	13543	09621	68301	69817	52140
41	82244	67549	76491	09761	74494	91307	64222	66592
42	55847	56155	42878	23708	97999	40131	52360	90390
43	94095	95970	07826	25991	37584	56966	68623	83454
44	11751	69469	25521	44097	07511	88976	30122	67542
45	69902	08995	27821	11758	64989	61902	32121	28165
46	21850	25552	25556	92161	25592	43294	10479	37879
47	75850	46992	25165	55906	62339	58958	91717	15756
48	29648	22086	42581	85677	20251	39641	65786	80689
49	82740	28443	42734	25518	82827	35825	90288	32911
50	36842	42092	52075	83926	42875	71500	69216	01350

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