

Examples of Probabilistic Sampling Procedures: Test of Transaction (existence)
 Attribute: trace data (qty, price, customer, etc.) from sales invoices/sales journal entries
 back to shipping document data
 Population: all invoices
 Sample Unit: individual invoice

Random Sample:

Input range of invoice numbers from throughout year into random number generator
 audit software: say, 1112 to 4724
 Input sample size: say, 30

Computer randomly selects 30 invoice numbers: 1241, 1325, 1568, 1745, ... and so on
 till you get 30 invoices for your sample.
 Completely random selection.

Systematic Sampling:

$4724 - 1112 / 30 = 121 = \text{range}$.
 Computer randomly selects one number between 1 and 121, say 67.

$1112 + 67 = 1179$ (first invoice selection)

+121
 1300 (second selection)
+121
 1421 (third selection)

and so on till you get 30 invoices for your sample.
 Assures sample is dispersed throughout population.

Probability Proportional to Size:

Arrange the population of invoices as follows (need to download client file)

Total	Invoice amount	Invoice Number
100	100	1112
145	45	1113
250	105	1114
550	300	1115
to		
1,234,534	400	4722
1,234,554	20	4723
1,235,554	1000	4724

Then have random number generator select 30 numbers between 0 – 1,235,554
 Say, we get numbers: 271, and 1,234,724 – then two of our invoice selections are: 1115
 and 4724.
 Assures higher probability of selecting larger items.

