

- o **Simple random sample:** sample selected so that every possible sample of the same size is equally likely to be chosen. (drawing from a hat)
- o **Stratified random sample:** obtained by separating the population into strata and then drawing srs's from them (gender, age, occupation, etc.)
- o **Cluster sample:** simple random sample of groups of clusters of elements (vs a simple random sample of individual objects)
- Types of errors:
 - o Sampling error: (INCREASE SAMPLE SIZE) - differences between sample and population that exist only because of the observations that happened to be selected.
 - o Non-sampling error: (increasing sample size will NOT reduce this error)
 - Errors in data acquisition (clerical error): incorrect measurements being taken because of equipment, mistakes during transcription of notes, inaccurate recordings, etc.
 - Nonresponse errors: introduced when responses are not obtained from some members in the sample
 - Selection bias: occurs when the sampling plan is such that some members cannot possibly be selected for inclusion in the sample.

	Population	Sample
Size	N	n
Mean	μ	\bar{x}
Variance	σ^2	s^2
Standard Deviation	σ	s
Coefficient of Variation	CV	cv
Covariance	σ_{xy}	S_{xy}
Coefficient of Correlation	ρ	r

Shortcut formulas:

SAMPLE COVARIANCE:

SAMPLE VARIANCE