Journal of Statistical Sciences, Spring 2007 **90**

Vol. 1, No. 1, pp 73-88.

Inference in Normal Distribution Based on the Weighted Sampling

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Abstract: The classical analysis is based on random samples. However, in many situations the observations are recorded according to a nonnegative function of observations. In this case the mechanism of sampling is called weighted sampling. The usual statistical methods based on a weighted sample may be not valid and have to be adjusted. In this paper adjusted methods under some particular weight functions for normal distribution are studied and a new distribution called double normal distribution, is introduced as a weighted normal distribution

Keywords: Weighted Sampling, Independent Weight Function, Dependent Weight Function, Weighted Random Variable, Weighted Normal Distribution, Double Normal Distribution.