

STATVILLAGE HOMEWORK

Donatas Šlevinskas

¹ Vilnius Gediminas Technical University, Lithuania
e-mail: donatas.slevinskas@stud.vilniustech.lt

Abstract

During the course of sampling methods I was given a homework about hypothetical village in Canada called StatVillage. Here we try to estimate various parameters of the population variable using different sampling and estimation techniques (ex. stratified random sampling, poststratification, single-stage cluster sampling, ratio estimator). The main task is to get estimates with a low variance. In addition, missing values of numerical variables are filled in using regression trees.

Keywords: stratified random sampling, ratio estimator, regression trees.

References

Krapavickaitė, D. and Plikusas, A. (2005) *Imčių teorijos pagrindai*. Technika, Vilnius.

James, G., Witten, D., Hastie, T., Tibshirani, R. (2013) *An Introduction to Statistical Learning: with Applications in R*. Springer, New York.

Schwarz, C. J. (1997) StatVillage StatVillage: An On-Line, WWW-Accessible, Hypothetical City Based on Real Data for Use in an Introductory Class in Survey Sampling. *Journal of Statistics Education* **5**(2). <http://jse.amstat.org/v5n2/schwarz.supp/index.html>