Teaching Statistics with Technology

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Abstract. We discuss usage of computer technology in teaching the introductory statistics course in St. George's University.

Introduction

Computers have become indispensable teaching tools, providing convenient means for preparing classes, demonstrations, etc. Computers have also freed students from boring and time-consuming calculations by completing work quickly and efficiently.

Computer Algebra Systems (CAS), such as Mathematica or Maple besides being easy to program basic formulas, provide a set of ready statistical tools ranging from basic descriptive statistics to fitting the models, cluster analysis, hypothesis testing and time-series analysis.

Here, we discuss computer tools used in teaching the course on Introductory Statistics. While CAS are convenient for teachers to prepare for the classes, preparing demonstrations and assignments, we find that students need first of all practical tools that can and will be used in the future for real statistical analysis. So for lab exercises students are recommended to use Excel, RCommander or JASP.

Excel provides the means for basic statistical analysis and visualizations. As a spreadsheet it also is convenient as a replacement for "old-fashion" way of calculations using frequency tables, etc. RCommander is recommended since it provides a set of professional utilities for statistical analysis and visualization. It also can be used as a first step in learning and using R. Typical problem students have with using RCommander is related to installation of it. JASP is easy to install and use and provides most of the tools needed for the course.

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