LaTeX code for "The Enhancement of Teaching Materials for Applied Statistics Courses by Combining Random Number Generation and Portable Document Format Files via LaTeX"

Arthur Dryver

Example 1

Figure 1 is an example of a JavaScript pop-up application for creating practice problems on the topic of addition created using LaTeX. A bonus feature not possible within a traditional document is that users can enter their answer and then compare this answer to the correct one for immediate feedback.

Figure 1: A simple example of using random number generation to create over ten thousand, 101×101, interactive problem-solution sets for the addition of two whole numbers ranging from 0 to 100.

Example 2

The problem-solution sets in Figure 2 were created in LaTeX. The buttons above the first gray box create a question. The question outputted to the file depends on the button clicked. The button above the second gray box, when clicked, outputs the solution to the question in the question box. Note that some answers obtained from other software packages may differ from the PDF file output due to rounding.
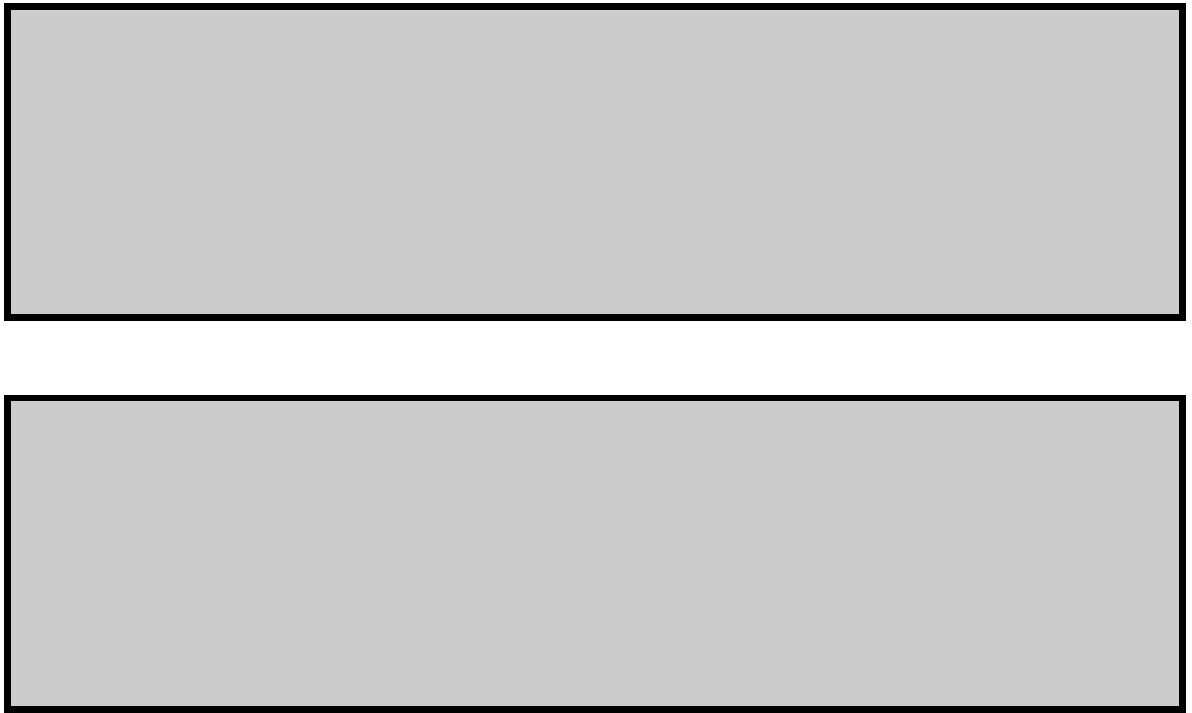
Figure 2: An example of creating practically infinite problem-solution sets using random number generation.