Graphics Device Tabular Output

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R has provided users with powerful graphic capabilities to produce sophisticated, aesthetically pleasing plots that meet the high standards in today’s scientific reporting. However, R has lacked the ability to create quality tabular output within the R environment. Most users who produce quality tabular output rely on the typesetting system LaTeX. This may deter some new users from further exploring the dynamic language supported by R’s environment.

The gap between R’s graphical capabilities and its inability to produce tabular output is the underlying motivation to create a function, utilizing the gridBase library, to produce high-level tabular output completely within the R environment. The proposed tabular function provides a granular level of control by looping through a data frame and printing every element one-by-one to the graphics device. In addition, the user is able to add additional formatting through parameter declaration and defined escape characters.

Some highlights of its functionality are:

- Column, Row, Title, Subtitle Labeling
- Apply additional formatting to grouped row and column label hierarchies
- Add vertical and horizontal dividers (lines)
- Row highlighting
- Footer
- Foot Notes
- Page overflow management as well as page number (designed for long PDF reports)

The proposed tabular function can also be utilized to create wrappers to R functions that produce a high volume of text to the R console, such as the lm function. This wrapper captures the summary statistics, organizes them into a presentable format, and displays the tables adjacent to the model diagnostic plots.

This function should be easy to implement for any user who is familiar with calling an R function, while also providing the expert with additional flexibility to present high quality tabular output in any format supported by the R graphics device. There is a desire to further develop the logic used in this function so that its application may span different needs to present tabular output in R.