The \texttt{gp} slot in Viewports and in \texttt{grobs}

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Both viewports and \texttt{grob} objects have a \texttt{gp} slot. This slot can contain a \texttt{gpar} object, which consists of a bunch of graphical parameter settings. The interpretation of these settings differs for viewports and \texttt{grobs}.

For a viewport, the \texttt{gp} slot specifies the graphical context for all viewports and \texttt{grobs} within that viewport, but has no effect on the viewport itself. For a \texttt{grob}, the \texttt{gp} slot specifies the graphical context for the grob itself.

The following example demonstrates the idea; viewport \texttt{"A"} sets the font size to be 20.

\begin{verbatim}
> pushViewport(viewport(width = 0.8, height = 0.8, name = "A",
+     gp = gpar(fontsize = 20)))

Viewport \texttt{"B"} is positioned within \texttt{"A"} in terms of lines of text, which correspond to the font size of 20. Viewport \texttt{"B"} also set the font size to be 10 (but this has no effect on the size of lines of text for viewport \texttt{"B"} itself).

> pushViewport(viewport(y = unit(2, "lines"), width = 0.8, height = unit(1,
+     "inches"), just = "bottom", name = "B", gp = gpar(fontsize = 10)))

The text \texttt{"text 1"} is positioned in terms of lines of text within \texttt{"B"} and these lines correspond to the font size 10. The text \texttt{"text 2"} is also positioned in terms of lines of text, but it has a \texttt{gp} slot which specifies a font size of 6 so its lines are in terms of this font size. Finally, the text \texttt{"text 3"} is drawn with a font size of 6, but positioned relative to the font size of 10 because it is positioned by being drawn within viewport \texttt{"C"}, which is positioned in terms of lines of text within \texttt{"B"}. (Lines of text are indicated in thick grey lines for viewport \texttt{"A"} and in dotted black lines for viewport \texttt{"B"}.)

\begin{verbatim}
> grid.text("text 1", x = 0.25, y = unit(2, "lines"), just = "bottom")
> grid.text("text 2", x = 0.5, y = unit(2, "lines"), just = "bottom",
+     gp = gpar(fontsize = 6))
> pushViewport(viewport(y = unit(2, "lines"), name = "C", just = "bottom"))
> grid.text("text 3", x = 0.75, y = 0, just = "bottom", gp = gpar(fontsize = 6))
\end{verbatim}