

# The `gp` slot in Viewports and in `grobs`

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

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

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

```
> pushViewport(viewport(width = 0.8, height = 0.8, name = "A",
+   gp = gpar(fontsize = 20)))
```

Viewport "B" is positioned within "A" in terms of lines of text, which correspond to the font size of 20. Viewport "B" also set the font size to be 10 (but this has no effect on the size of lines of text for viewport "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 "text 1" is positioned in terms of lines of text within "B" and these lines correspond to the font size 10. The text "text 2" is also positioned in terms of lines of text, but it has a `gp` slot which specifies a font size of 6 so its lines are in terms of this font size. Finally, the text "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 "C", which is positioned in terms of lines of text within "B". (Lines of text are indicated in thick grey lines for viewport "A" and in dotted black lines for viewport "B".)

```
> 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))
```

