90-minute Animint tutorial

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Intro to animation and direct manipulation (5 min)

https://github.com/tdhock/interactive-tutorial

Animint manual Ch2: basics of ggplot2 (25 min)

http://cbio.ensmp.fr/~thocking/animint-book/Ch02-ggplot2.html

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Sketching a data viz on paper can be useful, since the sketch can be directly translated into R+ggplot2 code.
A **ggplot** consists of one or more geoms, each with its own data set and aesthetic mapping.
An **animint** `viz` is a list of ggplots and options which can be rendered via `structure(viz, class="animint")`.
Exercise: re-make interactive scatterplot of World Bank data, using a different aes mapping.

Multi-layer graphics consist of ggplots with several geoms.
A **multi-plot** animint `viz` list contains more than one ggplot.
Exercise: create an animint with three ggplots.

Animint manual Ch3: showSelected (25 min)

http://cbio.ensmp.fr/~thocking/animint-book/Ch03-showSelected.html

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`aes(showSelected=variable)` means to only show data for the selected value of `variable`.
Exercise: add another geom or plot to the previous data viz.

Smooth transitions can be specified using e.g. `duration=list(year=2000)`,
and then for each geom with `aes(showSelected=year)`, you should specify `aes(key)`.
Animation can be specified using e.g. `time=list(variable="year", ms=2000)`.
Exercise: make a data viz with animation but without smooth transitions.

Animint manual Ch4: clickSelects (25 min)

http://cbio.ensmp.fr/~thocking/animint-book/Ch04-clickSelects.html

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`aes(clickSelects=variable)` means clicking the geom changes the selected value of `variable`.
Exercise: make the country text label disappear when the corresponding region is de-selected.

`first=list(year=1970)` means that the year 1970 should be selected when the data viz is first rendered.
`selector.types=list(country="multiple")` means to use multiple selection for the `country` variable.
Exercise: make clicking a country text label de-select that country.

`geom_tallrect` occupies the entire vertical space, so only `aes(xmin,xmax)` need to be specified.
Exercise: add layers to the scatterplot, and animate the data viz.