Dashboard

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Load required packages

```r
1  library(tidyverse)
2  # if you're using macOS: library(dplyr)
3  library(skimr)
```

Dashboard

- A combination of some plots to show a story
  - Real-time
  - Insights
- Dashboard vs a plot

Example 1: Stock Explorer

Example 2: Worldwide Development
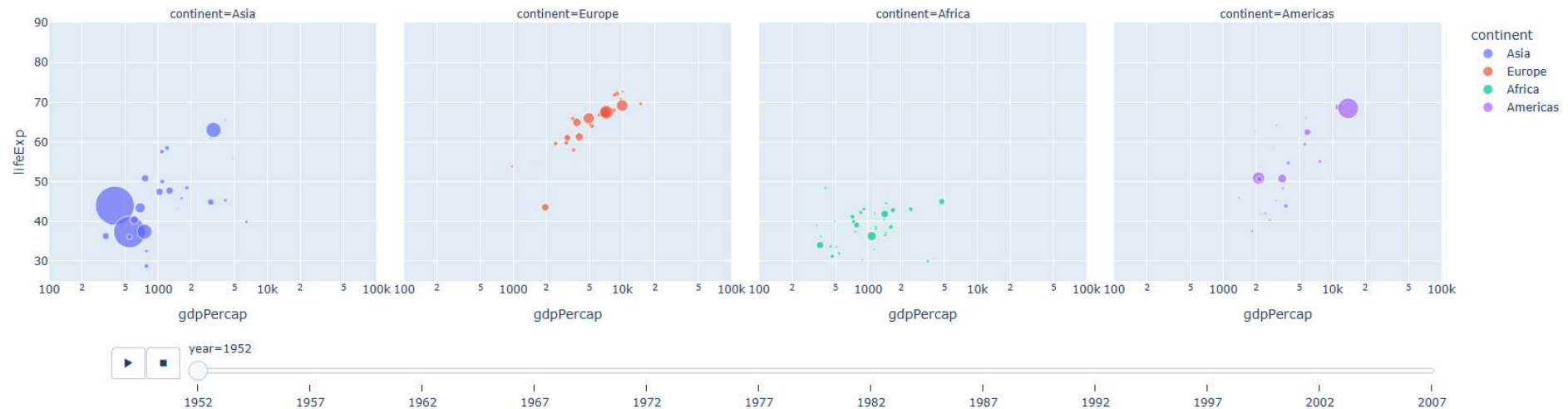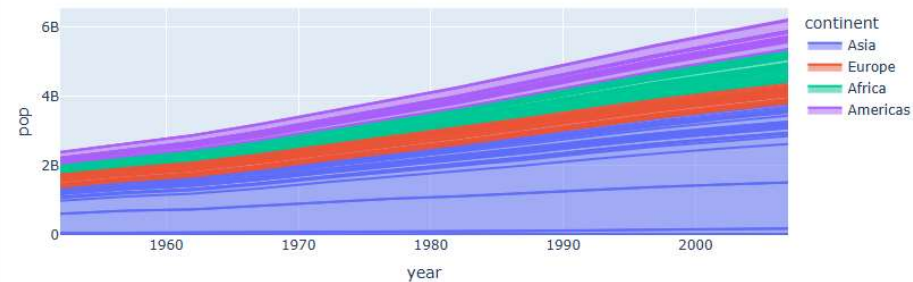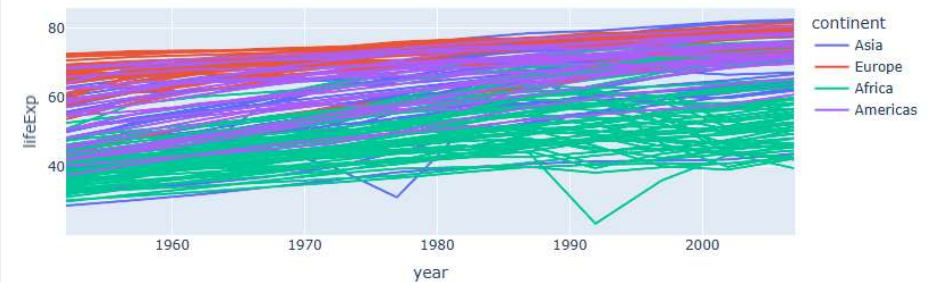
Example 3: Housing Market at a Glance

7.79%

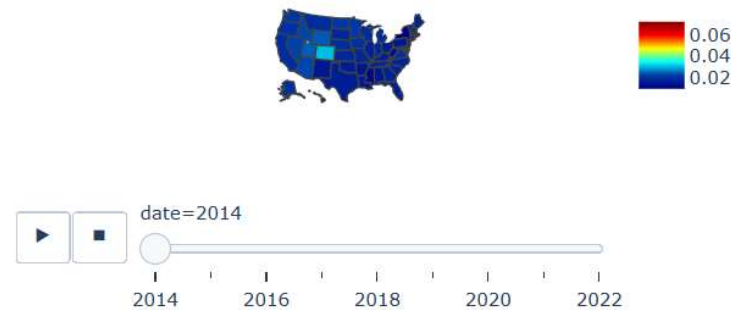Average annual rate for a 30-year fixed mortgage in Oct. 2023

7.03%

Average annual rate for a 15-year fixed mortgage in Oct. 2023

$388k

National median home price

Mortgage Originations per Capita

date=2014

| 0.06 |
| 0.04 |
| 0.02 |

2014   2016   2018   2020   2022

Mortage Originations

myd	fixed_30	fixed_15	date
Apr-19-05	4.08	3.56	2019-04-05
Apr-19-12	4.12	3.6	2019-04-12
Apr-19-19	4.17	3.62	2019-04-19
Apr-19-26	4.2	3.64	2019-04-26
May-19-03	4.14	3.6	2019-05-03
May-19-10	4.1	3.57	2019-05-10
May-19-17	4.07	3.53	2019-05-17

Housing Economics   Median Price

Interest Rates 15- and 30-Year

— 30-year
— 15-year

2020   2021   2022   2023

Housing Opportunity Index
Percentage of homes affordable to median-income families

2012   2014   2016   2018   2020   2022
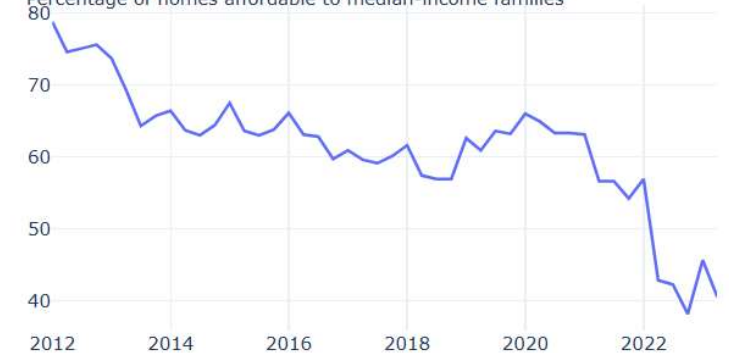
Layout of a dashboard

- Column vs rows

- Sidebar

- Tabset: like tabs in Chrome web browser (read here)

Input

- Plot
- Table
- Number
- Text

Steps to make a dashboard

1. Think which contents to show to audience

2. Design layout

3. Put contents to layout

    1. For plot: suggest to use interactive plot like `plotly`

    2. For table: use DT table

4. Change theme colors

5. Deployment or publish the dashboard online

Create a new quarto with these options on top

```
1  ---
2  title: "An awesome dashboard"
3  author: "Richard"
4  format: dashboard
5  ---
```

Practice

- Imagine that we have three plots: f1, f2, f3

- We made it in Lecture 8

- Let's discuss with your friends how to put them to a dashboard

Design a layout

- Refer to this website: Layout

- Re-analyze our three examples

- Then, apply to design layout to our three plots: f1, f2, f3

Themes

- You can choose up to 25 different themes: read here

    - Add the `theme` option with corresponding theme choice on the top

- Or customize a new one based on CSS

```
1  format:
2    dashboard:
3      theme: united
```

Complete it

- Let me show my dashboard first
    - Each figure needs to beautiful first
- OK, let work to make it and show me the results