Starting

on the right foot

teach-shiny.rbind.io

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Goal

Create, teach, and give / receive feedback on first three minutes of a Shiny workshop.

Q

Which of the following four descriptions gives you a **better sense** of the final product?

(1)

Pineapple and Coconut Sandwich Cake

(2)

Pineapple and Coconut Sandwich Cake

CC BY-SA RStudio

(3) Pineapple and Coconut Sandwich Cake

(4)

start with cake

Q

Which of the following four descriptions would give your learners (who are new to Shiny) a **better sense** of the final product?

(1)

What is Shiny?

- **shiny** is an R package that makes it incredibly easy to build interactive web applications with R.
- In a Shiny app, automatic "reactive" binding between inputs and outputs and extensive prebuilt widgets make it possible to build beautiful, responsive, and powerful applications with minimal effort.
- Today will will learn how to build Shiny apps, and along the way learn the basics of reactive programming.

(2)

Movie browser

Sample

Enter a sample size between 1 and 651:

30

Take random sample | Write CSV

Plot

Y-axis:

Audience Score

X-axis:

Critics Score

Color by:

MPAA Rating

Alpha:

0 0.5 1

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

Data

☑ Show data table

minecr.shinyapps.io/movies

Show 10 entries Search:

title	title_type	genre	runtime	mpaa_rating	studio	thtr_rel_year
K-19: The Widowmaker	Feature Film	Drama	138	PG-13	Paramount Pictures	2002
Phantom of the Paradise	Feature Film	Horror	92	PG	Fox	1974
Swordfish	Feature Film	Drama	99	R	Warner Bros. Pictures	2001

Q

Which of the following two examples is more likely to be **interesting** for a wide range of learners?

(1)

Uppercaser
Enter text to be converted to uppercase in the box below
Enter text here
Uppercaser
Enter text to be converted to uppercase in the box below
hello world
HELLO WORLD

(2)

Movie browser

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But let's focus on the task at hand...

The following is all we're asking students to do:

Your turn

The variable selected by default for the Y-axis of the plot is Audience Score. Update the app to make the default Y variable to be IMDB Score.

With great apps,

comes a great amount of code…

```
...

# Select variable for y-axis
selectInput(inputId = "y",
            label = "Y-axis:",
            choices = c("IMDB rating" = "imdb_rating",
                        "IMDB number of votes" = "imdb_num_votes",
                        "Critics Score" = "critics_score",
                        "Audience Score" = "audience_score",
                        "Runtime" = "runtime"),
            selected = "audience_score"),

...
```

```
...

# Select variable for y-axis
selectInput(inputId = "y",
            label = "Y-axis:",
            choices = c("IMDB rating" = "imdb_rating",
                        "IMDB number of votes" = "imdb_num_votes",
                        "Critics Score" = "critics_score",
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                        "Runtime" = "runtime"),
            selected = "audience_score"),

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```

```
...

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                        "Audience Score" = "audience_score",
                        "Runtime" = "runtime"),
            selected = "imdb_rating"),

...
```

Movie browser
Sample
Enter a sample size between 1 and 651:
30
Take random sample
Write CSV
Plot
Y-axis:
Audience Score
X-axis:
Critics Score
Color by:
MPAA Rating
Alpha:
0.5
Data
Show data table
Audience Score
Show 1
title
K-19: Tl
Widown
Phantor
Paradis
Swordfi
Movie browser
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Data
Show data table
IMDB Rating
Critics Score
MPAA Rating
G
PG
PG-13
R
Unrated
Show 10 entries
Search:
title
title_type
genre
runtime
mpaa_rating
studio
thtr_rel_year
Bound
Feature Film
Mystery & Suspense
108
R
Republic Pictures Home Video
1996
The Greatest Game Ever Played
Feature Film
Drama
120
PG
Buena Vista Pictures
2005
Django
Feature
Other
165
R
The Weinstein
2012

skip

▶ baby

steps

Q

Which of the following two visualizations is more likely to **motivate** learners to want to learn more?

(1) Hello Shiny!

(2)

Movie browser

Sample

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Plot

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X-axis:

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Non-trivial examples can be motivating, but need to avoid 👇!

more on this later today…

hide

the

veggies

Suppose you start with an app like this...

and ask students to add functionality take a random sample (of size input by the user) and plot it

What is ~~wrong~~ unideal about this solution?

Students will encounter
lots of new challenges along the way —
let that happen,
and then provide a solution

A better approach uses `actionButton()` and `eventReactive()`

now there's a good motivation
for introducing these not-so-simple concepts

start with cake

skip baby steps

hide the veggies

🚩 Your turn

- **Impromptu workshop** 🎉 : Get in groups of three and run the first 3 minutes of a workshop for an audience of Shiny novices.
- You will first have 3 minutes to prepare your presentation. Keep it simple, and focus on how to start.
- At the end of each mini-presentation, spend 2 minutes giving feedback at least one strength and at least one area of improvement for the workshop beginning.

Think	3m 00s
Present	3m 00s
Discuss	2m 00s

Discussion

What worked, what didn't?
What was easy to accomplish,
what wasn't so much?

Today's goal

Use principles introduced in the workshop (yesterday + today)
to build a 5-minute workshop snippet,
including slides and/or other relevant teaching materials.
Deliver it, and get feedback.