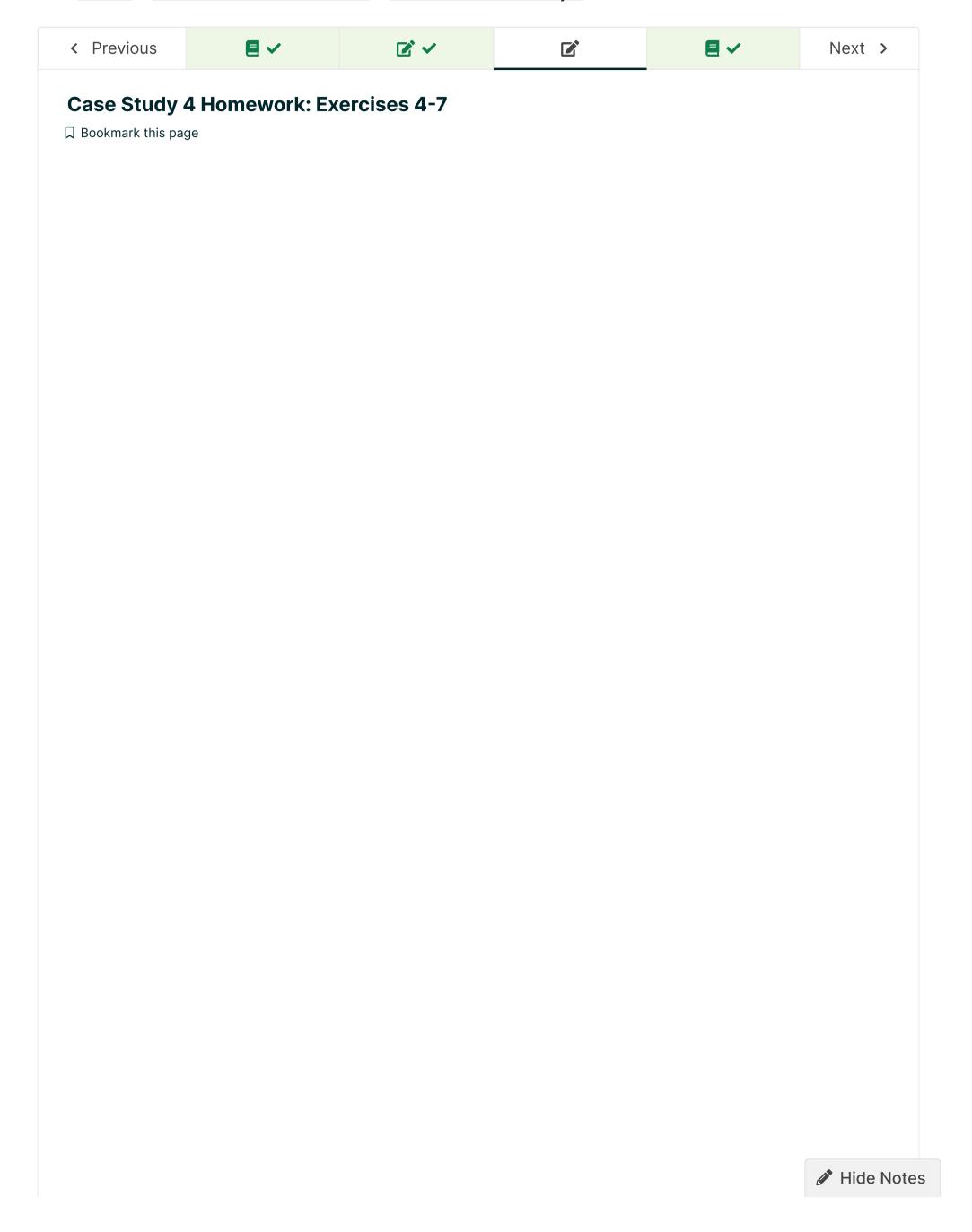


<u>Course</u> <u>Progress</u> <u>Dates</u> <u>Discussion</u> <u>Syllabus and FAQs</u> <u>Notes</u>

☆ Course / Week 4: Case Studies Part 2 / Homework: Case Study 4



Homework due Jul 14, 2021 05:59 +06

Exercise 4

0/1 point (graded)

In Exercise 4, we will edit the given code to make an interactive grid of the correlations among distillery pairs based on the quantities found in previous exercises. Most plotting specifications are made by editing ColumnDataSource, a boken structure used for defining interactive plotting inputs. The rest of the plotting code is already complete.

Instructions

- correlation_colors is a list of string colors for each pair of distilleries. Set this as color in ColumnDataSource.
- Define correlations in source using correlations from the previous exercise. To convert correlations from a np.array to a list, use the flatten() method. This correlation coefficient will be used to define both the color transparency as well as the hover text for each square.

Here is the code to get started:

```
source = ColumnDataSource(
    data = {
        "x": np.repeat(distilleries,len(distilleries)),
        "y": list(distilleries)*len(distilleries),
        "colors": ## ENTER CODE HERE! ##,
        "correlations": ## ENTER CODE HERE! ##,
    }
output_file("Whisky Correlations.html", title="Whisky Correlations")
fig = figure(title="Whisky Correlations",
    x_axis_location="above", x_range=list(reversed(distilleries)), y_range=distiller
    tools="hover,box_zoom,reset")
fig.grid.grid_line_color = None
fig.axis.axis_line_color = None
fig.axis.major tick line color = None
fig.axis.major_label_text_font_size = "5pt"
fig.xaxis.major_label_orientation = np.pi / 3
fig.rect('x', 'y', .9, .9, source=source,
     color='colors', alpha='correlations')
hover = fig.select(dict(type=HoverTool))
hover.tooltips = {
    "Whiskies": "@x, @y",
    "Correlation": "@correlations",
show(fig)
```

o pink
orange
blue
green
lightgrey
white
×
Submit You have used 2 of 2 attempts

Exercise 6

1/1 point (graded)

In Exercise 6, we will define a function location_plot(title, colors) that takes a string title and a list of colors corresponding to each distillery and outputs a Bokeh plot of each distillery by latitude and longitude. It will also display the distillery name, latitude, and longitude as hover text.

Instructions

- Adapt the given code beginning with the first comment and ending with show(fig) to create the function location_plot(), as described above.
- Region is a column of in the pandas dataframe whisky, containing the regional group membership for each distillery. Make a list consisting of the value of region_colors for each distillery, and store this list as region_cols.
- Use location_plot to plot each distillery, colored by its regional grouping.

Here is the code you will edit to do this exercise:

```
# edit this to make the function `location_plot`.
output_file(title+".html")
location source = ColumnDataSource(
    data = {
        "x": whisky[" Latitude"],
        "y": whisky[" Longitude"],
        "colors": colors,
        "regions": whisky.Region,
        "distilleries": whisky.Distillery
fig = figure(title = title,
    x_axis_location = "above", tools="hover, save")
fig.plot_width = 400
fig.plot_height = 500
fig.circle("x", "y", size=9, source=location_source, color='colors', line_color = No
fig.xaxis.major label orientation = np.pi / 3
                                                                               Hide Notes
hover = fig.select(dict(type = HoverTool))
```

```
hover.tooltips = {
    "Distillery": "@distilleries",
    "Location": "(@x, @y)"
}
show(fig)

region_cols = ## ENTER CODE HERE! ##
location_plot("Whisky Locations and Regions", region_cols)
```

Consider the bottom green point of the given plot. What is the distillery associated with this point?

Bladnoch

Submit

You have used 1 of 10 attempts

✓ Correct (1/1 point)

Exercise 7

1/1 point (graded)

In Exercise 7, we will use this function to plot each distillery, colored by region and taste coclustering classification, respectively.

Instructions

- Create the list <a href="region_cols" consisting of the color in region_colors" that corresponds to each whisky in whisky.Region.
- Similarly, create a list classification_cols consisting of the color in cluster_colors that corresponds to each cluster membership in whisky.Group.
- Create two interactive plots of distilleries, one using region_cols and the other with colors defined by classification_cols. Consider how well the coclustering groupings match the regional groupings.

Here is the code to edit to make the plot:

```
region_cols = ## ENTER CODE HERE! ##

classification_cols = ## ENTER CODE HERE! ##

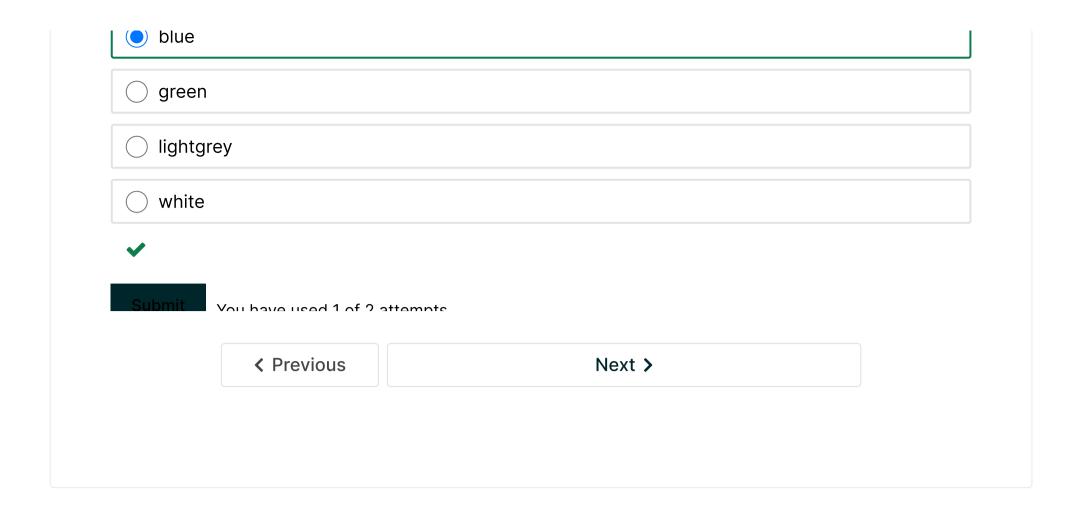
location_plot("Whisky Locations and Regions", region_cols)
location_plot("Whisky Locations and Groups", classification_cols)
```

Consider the classification_cols plot. What color is the point associated with the distillery Bladnoch?

○ pink

orange

Hide Notes



© All Rights Reserved



edX

<u>About</u>

Affiliates

edX for Business

Open edX

Careers

News

Legal

Terms of Service & Honor Code

Privacy Policy

Accessibility Policy

Trademark Policy

<u>Sitemap</u>

Connect

<u>Blog</u>

Contact Us

Help Center

Media Kit

Donate















