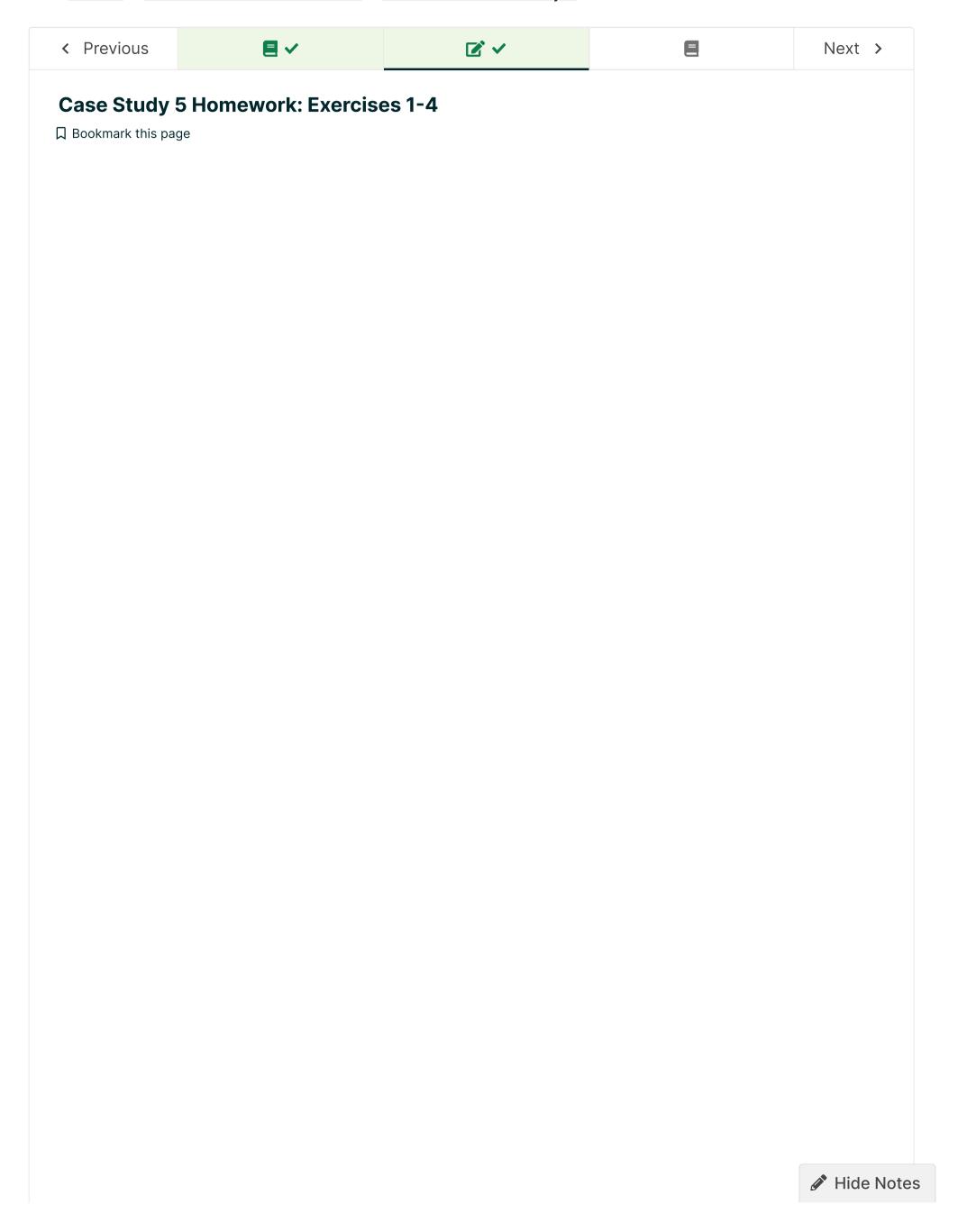
<u>Course</u> <u>Progress</u>

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☆ Course / Week 4: Case Studies Part 2 / Homework: Case Study 5



Homework due Jul 14, 2021 05:59 +06 Completed

Exercise 1

1/1 point (graded)

In Exercise 1, we will group the dataframe by **birdname** and then find the average **speed_2d** for each bird. **pandas** makes it easy to perform basic operations on groups within a dataframe without needing to loop through each value in the dataframe.

Instructions

Fill in the code to find the mean altitudes of each bird using the pre-loaded birddata dataframe.

Here is the code:

```
# First, use `groupby()` to group the data by "bird_name".
grouped_birds =

# Now calculate the mean of `speed_2d` using the `mean()` function.
mean_speeds =

# Find the mean `altitude` for each bird.
mean_altitudes =
```

What is the mean speed for Sanne?

2.450434

2.450434

You have used 2 of 10 attempts

✓ Correct (1/1 point)

Exercise 2

1/1 point (graded)

In Exercise 2, we will group the flight times by date and calculate the mean altitude within that day.

Instructions

Convert birddata.date_time to the pd.datetime format, and store as birddata["date"].

Fill in the code below to find the mean altitudes for each day:

```
# Convert birddata.date_time to the `pd.datetime` format.
birddata.date_time =

# Create a new column of day of observation
birddata["date"] =
# Hide Notes
```

```
# Use groupby() to group the data by date.
grouped_bydates =

# Find the mean `altitude` for each date.
mean_altitudes_perday =
```

What is the mean altitude of the birds on 2013-09-12?

75.646091 **~**

Submit

You have used 1 of 10 attempts

Exercise 3

1/1 point (graded)

In Exercise 3, we will group the flight times by both bird and date, and calculate the mean altitude for each.

Instructions

Note that birddata already contains the date column. To find the average speed for each bird and day, create a new grouped dataframe called grouped_birdday that groups the data by both bird_name and date.

Fill in the following code for this exercise:

```
# Use `groupby()` to group the data by bird and date.
grouped_birdday =

# Find the mean `altitude` for each bird and date.
mean_altitudes_perday =
```

What is the mean altitude of the bird Eric on 2013-08-18?

121.353659 **21.353659**

Submit

You have used 1 of 10 attempts

Exercise 4

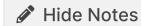
1/1 point (graded)

In Exercise 4, we will find the average speed for each bird and day.

Instructions

Store the average speeds for each bird and day as three pandas Series objects, one for each bird, then use the plotting code provided to plot the average speeds for each bird.

Here is the code to moldify for this exercise:



```
import matplotlib.pyplot as plt
  eric_daily_speed = # Enter your code here.
   sanne_daily_speed = # Enter your code here.
  nico_daily_speed = # Enter your code here.
  eric_daily_speed.plot(label="Eric")
  sanne_daily_speed.plot(label="Sanne")
  nico_daily_speed.plot(label="Nico")
  plt.legend(loc="upper left")
  plt.show()
What is the mean speed of the bird Nico on 2014-04-04?
 2.832465
2.832465
          You have used 2 of 10 attempts
✓ Correct (1/1 point)
               Previous
                                                  Next >
```

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