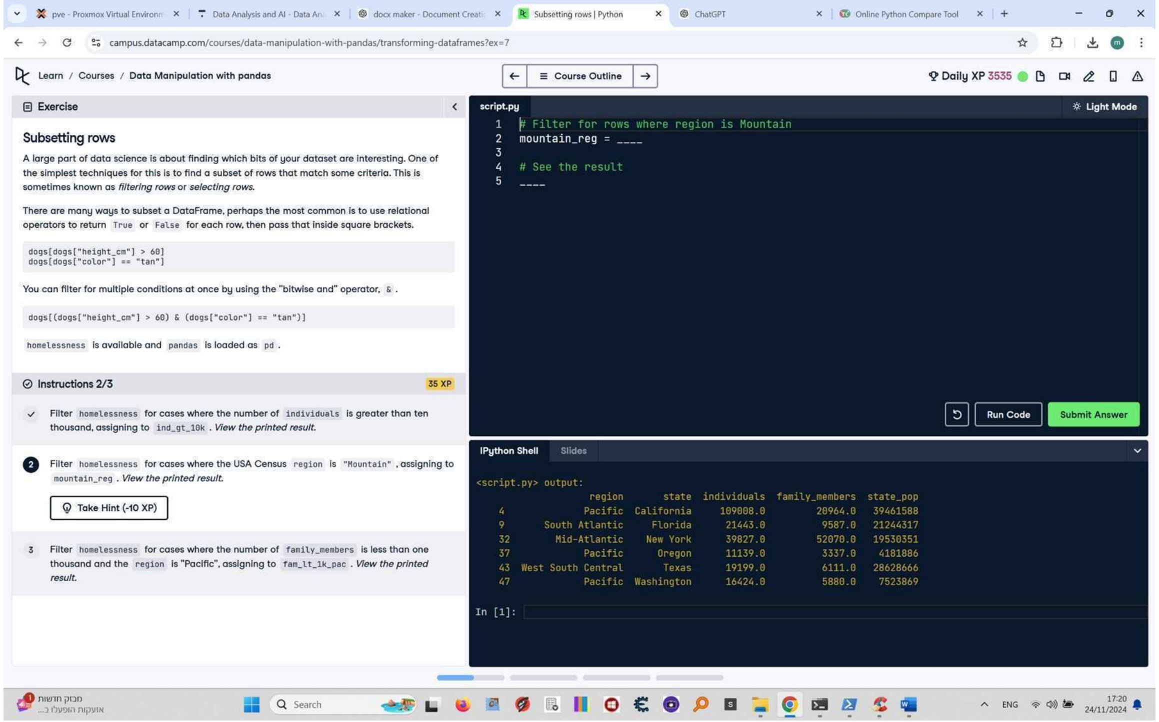
Subsetting Rows - Region is Mountain

This document includes the question, the solution, and a breakdown of the code provided in the screenshot.

Uploaded Screenshot

Below is the screenshot of the task:


pve - Proxmox Virtual Environm
Data Analysis and AI - Data An
docx maker - Document Creati
Subsetting rows | Python
ChatGPT
Online Python Compare Tool
campus.datacamp.com/courses/data-manipulation-with-pandas/transforming-dataframes?ex=7
Learn / Courses / Data Manipulation with pandas
Course Outline
Daily XP 3535
Exercise
script.py
Light Mode
Run Code
Submit Answer
IPython Shell
Slides
Take Hint (-10 XP)
35 XP
מבזק חדשות
Search
ENG
17:20
24/11/2024

Subsetting rows

A large part of data science is about finding which bits of your dataset are interesting. One of the simplest techniques for this is to find a subset of rows that match some criteria. This is sometimes known as *filtering rows* or *selecting rows.*

There are many ways to subset a DataFrame, perhaps the most common is to use relational operators to return `True` or `False` for each row, then pass that inside square brackets.

```
dogs[dogs["height_cm"] > 60]
dogs[dogs["color"] == "tan"]
```

You can filter for multiple conditions at once by using the "bitwise and" operator, `&`.

```
dogs[(dogs["height_cm"] > 60) & (dogs["color"] == "tan")]
```

`homelessness` is available and `pandas` is loaded as `pd`.

Instructions 2/3

✓ Filter `homelessness` for cases where the number of `individuals` is greater than ten thousand, assigning to `ind_gt_10k`. *View the printed result.*

2 Filter `homelessness` for cases where the USA Census `region` is `"Mountain"`, assigning to `mountain_reg`. *View the printed result.*

3 Filter `homelessness` for cases where the number of `family_members` is less than one thousand and the `region` is "Pacific", assigning to `fam_lt_1k_pac`. *View the printed result.*

```
# Filter for rows where region is Mountain
mountain_reg = ____

# See the result
____
```

```
<script.py> output:
                 region       state  individuals  family_members  state_pop
    4           Pacific  California     109008.0         20964.0   39461588
    9    South Atlantic     Florida      21443.0          9587.0   21244317
    32     Mid-Atlantic    New York      39827.0         52070.0   19530351
    37          Pacific      Oregon      11139.0          3337.0    4181886
    43  West South Central    Texas      19199.0          6111.0   28628666
    47          Pacific  Washington      16424.0          5880.0    7523869

In [1]:
```

Question

Filter `homelessness` for cases where the region is "Mountain", assigning the result to `mountain_reg`. View the printed result.

Answer

```
# Filter for rows where region is Mountain
mountain_reg = homelessness[homelessness["region"] == "Mountain"]

# See the result
print(mountain_reg)
```

Code Explanation

# Explanation of the code:

1. `homelessness["region"] == "Mountain"`: This creates a boolean mask, where each row evaluates to `True` if the value in the `region` column matches "Mountain", and `False` otherwise.

2. `homelessness[homelessness["region"] == "Mountain"]`: Filters the `homelessness` DataFrame by keeping only rows where the mask is `True`.

3. `mountain_reg`: Stores the filtered DataFrame for further use.

4. `print(mountain_reg)`: Prints the resulting DataFrame to verify the filter.