

Comparing Search Rates by Gender (Part 3)

The screenshot shows a web browser window with a DataCamp course page. The browser's address bar shows the URL: `campus.datacamp.com/courses/analyzing-police-activity-with-pandas/exploring-the-relationship-between-gender-and-policing?ex=9`. The page title is "Learn / Courses / Analyzing Police Activity with pandas". The exercise is titled "Comparing search rates by gender" and includes instructions: "In this exercise, you'll compare the rates at which female and male drivers are searched during a traffic stop. Remember that the vehicle search rate across all stops is about 3.8%." and "First, you'll filter the DataFrame by gender and calculate the search rate for each group separately. Then, you'll perform the same calculation for both genders at once using a `.groupby()`." The exercise is worth 30 XP. The code editor on the right shows the following Python code:

```
1 # Calculate the search rate for both groups simultaneously
2 print(ri.groupby('driver_gender')['search_conducted'].mean())
```

Below the code editor is a "Python Shell" output area showing the result of the code execution:

```
script.py> output
1. 0.038000000000000002
```

The bottom of the screenshot shows a Windows taskbar with the date 08/12/2024 and time 16:16.

Task Description

1. Group by driver gender to calculate the search rate for both groups simultaneously.
2. Verify that the result matches the previously calculated individual rates.

Code Solution

```
# Calculate the search rate for both groups simultaneously
gender_search_rate = ri.groupby('driver_gender')
['search_conducted'].mean()
print(gender_search_rate)
```

Code Explanation

1. The line `'gender_search_rate = ri.groupby('driver_gender')['search_conducted'].mean()'` groups the DataFrame by the `'driver_gender'` column and calculates the mean of `'search_conducted'` for each group. This provides the search rate for both male and female drivers in one step.
2. The line `'print(gender_search_rate)'` outputs the calculated search rates to verify that they match the previously calculated rates for each gender.