

Add Column to DataFrame in Python

The screenshot shows a web browser with multiple tabs. The active tab is 'campus.datacamp.com/courses/intermediate-python/loops/ex=16'. The page displays an exercise titled 'Add column (!)' with instructions and a code editor. The instructions state: 'In the video, Hugo showed you how to add the length of the country names of the brics DataFrame in a new column: for lab, row in brics.iterrows(): brics.loc[lab, "name_length"] = len(row["country"]) You can do similar things on the cars DataFrame.' The code editor shows the following Python code:

```
1 # Import cars data
2 import pandas as pd
3 cars = pd.read_csv('cars.csv', index_col = 0)
4
5 # Code for loop that adds COUNTRY column
6
7
8
9 # Print cars
10 print(cars)
```

Below the code editor is a 'Python Shell' area with a 'Run Code' button and a 'Submit Answer' button. The bottom of the screen shows a Windows taskbar with various icons and a system clock indicating 13:56 on 21/11/2024.

****Question:****

In the video, Hugo showed you how to add the length of the country names of the `brics` DataFrame in a new column:

```
```python
for lab, row in brics.iterrows():
 brics.loc[lab, 'name_length'] = len(row['country'])
```
```

You can do similar things on the `cars` DataFrame.

****Instructions:****

1. Use a `for` loop to add a new column, named `COUNTRY`, that contains an uppercase version of the country names in the `country` column. You can use the string method `upper()` for this.
2. To see if your code worked, print out `cars`. Don't indent this code, so that it's not part of the `for` loop.

****Answer:****

Here is the Python code that solves the problem:

```
# Import pandas
import pandas as pd

# Load the cars DataFrame
cars = pd.read_csv('cars.csv', index_col=0)

# Add a new column 'COUNTRY' with uppercase country names
for lab, row in cars.iterrows():
    cars.loc[lab, 'COUNTRY'] = row['country'].upper()

# Print the updated DataFrame
print(cars)
```

****Explanation:****

1. ****Importing pandas****: The `pandas` library is imported to handle the DataFrame.
2. ****Loading the DataFrame****: The `cars` DataFrame is loaded from a CSV file (`cars.csv`) with the first column set as the index using `index_col=0`.
3. ****Adding a new column****:
 - The `iterrows()` method is used to iterate over the rows of the DataFrame.
 - For each row, the `upper()` method is applied to the `country` value to create an uppercase version.
 - The result is stored in a new column named `COUNTRY`.
4. ****Printing the updated DataFrame****: Finally, the updated DataFrame is printed to verify the addition of the new column.