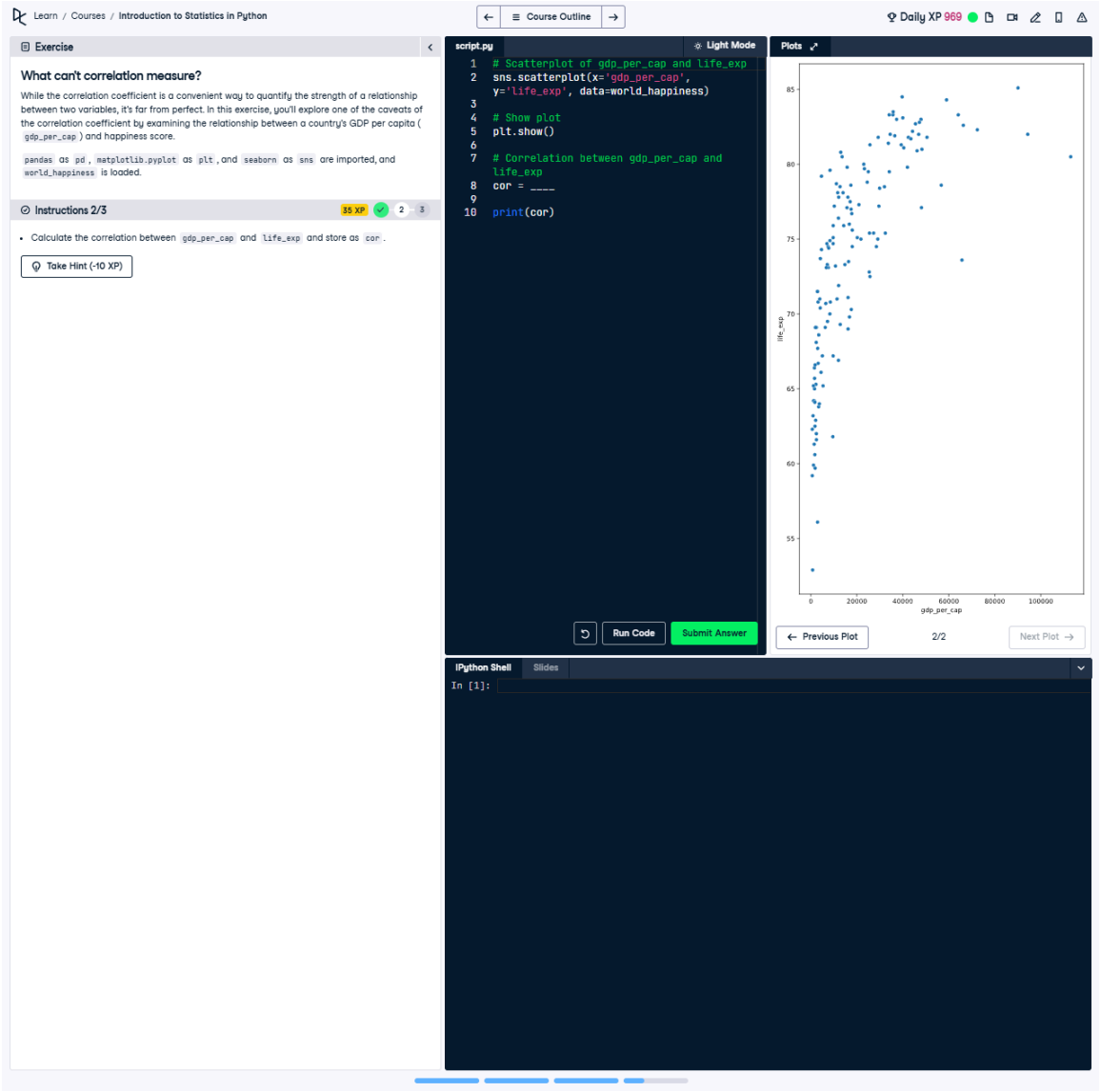
Correlation Between GDP and Life Expectancy



Question:

Calculate the correlation between 'gdp_per_cap' and 'life_exp' using the dataset `world_happiness`. Store the correlation value as `cor` and display it after creating a scatterplot showing their relationship.

Explanation of the Question:

The task requires both visualizing the relationship between GDP per capita and life expectancy and quantifying this relationship using the correlation coefficient. Scatterplots provide a graphical view, while the correlation coefficient provides a numerical measure of linear association.

Answer:

```
# Import necessary libraries
import seaborn as sns
import matplotlib.pyplot as plt

# Scatterplot of gdp_per_cap and life_exp
sns.scatterplot(x='gdp_per_cap', y='life_exp', data=world_happiness)
plt.show()

# Calculate the correlation between gdp_per_cap and life_exp
cor = world_happiness['gdp_per_cap'].corr(world_happiness['life_exp'])

# Print the correlation
print(cor)
```

Explanation of the Answer:

The scatterplot is created using seaborn's scatterplot function to visually inspect the relationship between GDP per capita and life expectancy. The correlation is calculated using pandas' `corr()` function, which computes the Pearson correlation coefficient. The result is stored in the variable `cor` and printed to verify the linear association.