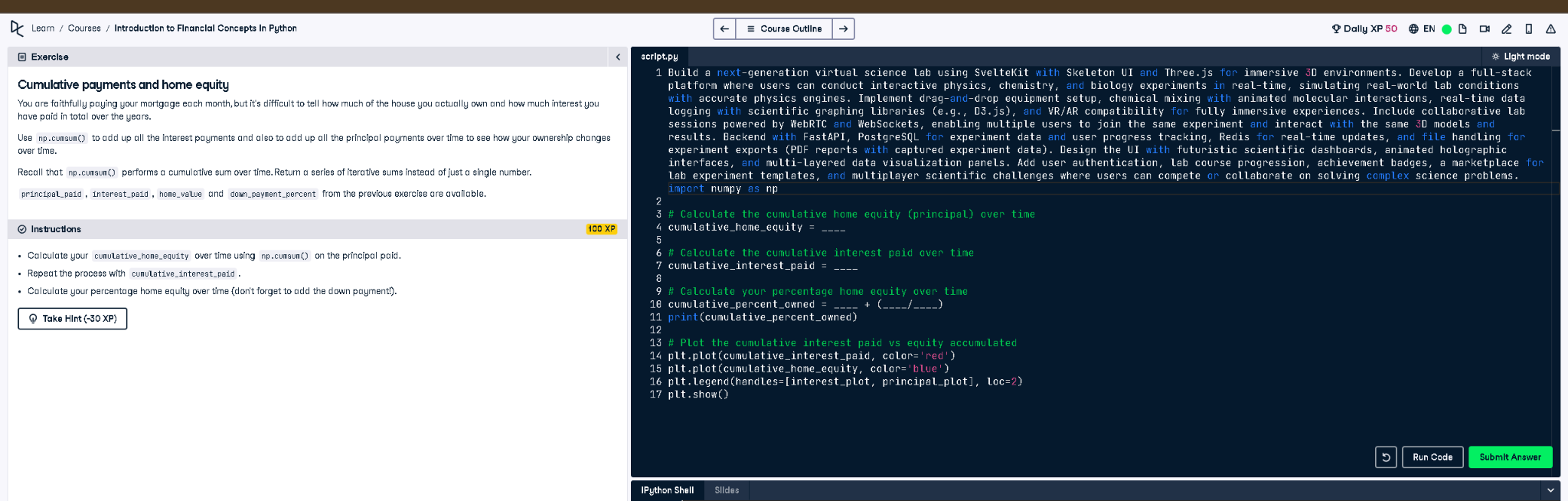
Cumulative Payments and Home Equity (Fixed) - Full Answer



# Full Code Answer:

import numpy as np  
  
# Calculate the cumulative home equity (principal) over time  
cumulative\_home\_equity = np.cumsum(principal\_paid)  
  
# Calculate the cumulative interest paid over time  
cumulative\_interest\_paid = np.cumsum(interest\_paid)  
  
# Calculate your percentage home equity over time (fraction, not multiplied by 100)  
cumulative\_percent\_owned = down\_payment\_percent + (cumulative\_home\_equity / home\_value)  
print(cumulative\_percent\_owned)  
  
# Plot the cumulative interest paid vs equity accumulated  
plt.plot(cumulative\_interest\_paid, color='red')  
plt.plot(cumulative\_home\_equity, color='blue')  
plt.legend(handles=[interest\_plot, principal\_plot], loc=2)  
plt.show()

# Question:

How do we correctly calculate cumulative home equity percentage and avoid multiplying by 100 when not needed?

# 20-word Explanation (Question):

Calculating equity as a fraction avoids unnecessary scaling by 100, representing ownership proportion correctly throughout mortgage term.

# Answer:

We add down\_payment\_percent to the cumulative\_home\_equity/home\_value ratio, ensuring the percentage remains a fractional value over time.

# 20-word Explanation (Answer):

Using down\_payment\_percent plus cumulative\_home\_equity divided by home\_value ensures a correct fractional home ownership representation over time.