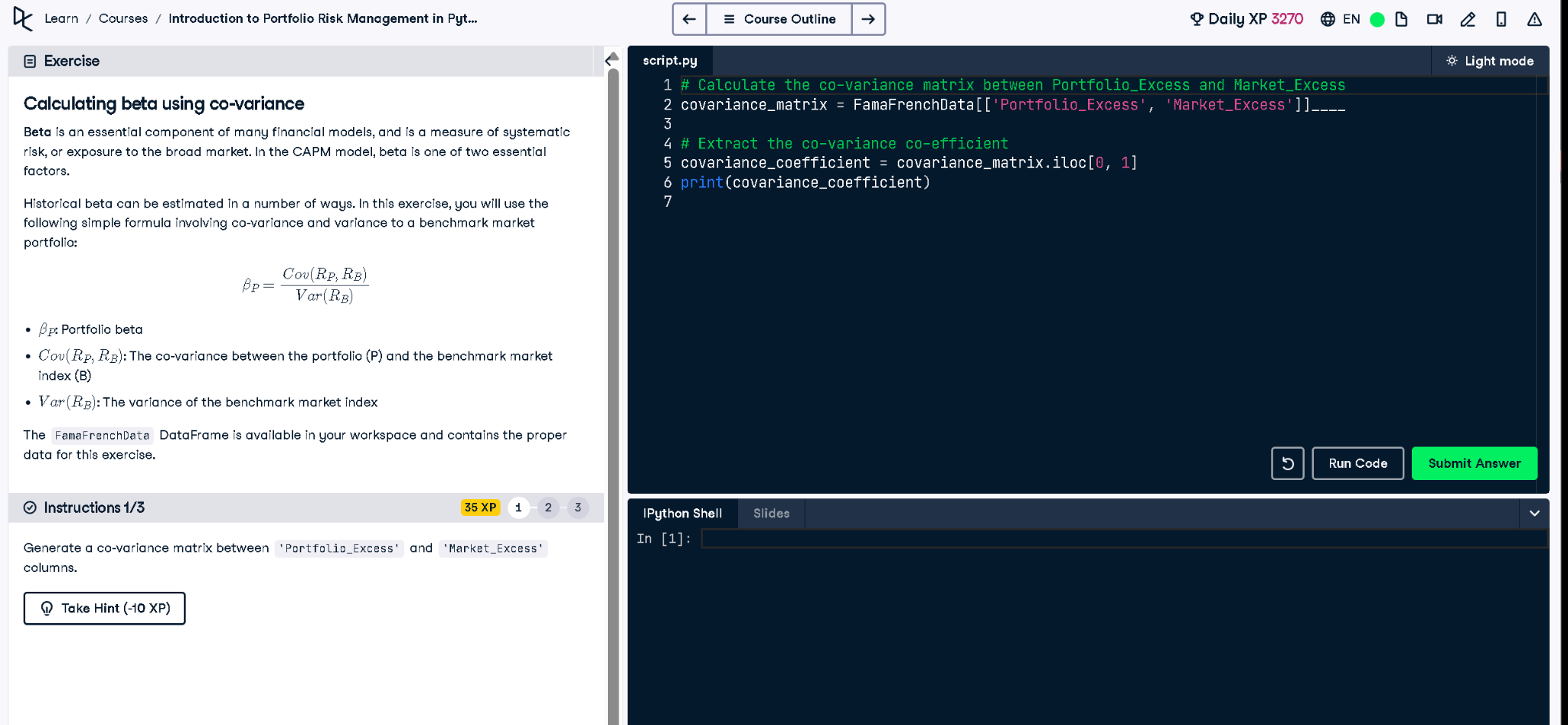
# Calculating Beta Using Co-variance



## Python Code

# Calculate the co-variance matrix between Portfolio\_Excess and Market\_Excess  
covariance\_matrix = FamaFrenchData[['Portfolio\_Excess', 'Market\_Excess']].cov()  
  
# Extract the co-variance co-efficient  
covariance\_coefficient = covariance\_matrix.iloc[0, 1]  
print(covariance\_coefficient)

## Explanation (in Simple Words)

We compute beta, a measure of systematic risk, by finding the covariance between the portfolio’s excess return and the market’s excess return. Then we extract the actual covariance value from the resulting matrix. This value will be used in the beta formula to assess market exposure.