Adjusting Future Value for Inflation - Python Exercise

# Question:

Calculate the future value of a $10,000 investment returning 8% per year for 10 years using fv(), and then calculate the inflation-adjusted present value with 3% inflation.

# Question Explanation (20 words):

We must calculate a 10-year future value at 8% return and adjust it with 3% annual inflation using pv().

# Answer (Code):

# Import numpy as np  
import numpy as np  
  
# Calculate future value  
investment\_1 = np.fv(rate=0.08, nper=10, pmt=0, pv=-10000)  
  
# Calculate inflation-adjusted value  
investment\_1\_discounted = np.pv(rate=0.03, nper=10, pmt=0, fv=investment\_1)  
  
# Print results  
print("Investment 1 will yield a total of $" + str(round(investment\_1, 2)) + " in 10 years")  
print("After adjusting for inflation, investment 1 is worth $" + str(round(-investment\_1\_discounted, 2)) + " in today's dollars")

# Answer Explanation (20 words):

We first compute future value with fv(), then discount it by inflation using pv() to find today's equivalent value.

