Diminishing Cash Flows - Python Exercise

# Question:

Calculate the present value of a $100 payment received 30, 50, and 100 years from now with 3% annual inflation.

# Question Explanation (20 words):

We calculate present values of a $100 payment for 30, 50, and 100 years, using 3% annual discount rate.

# Answer (Code):

# Import numpy as np  
import numpy as np  
  
# Calculate investment\_1  
investment\_1 = np.pv(rate=0.03, nper=30, pmt=0, fv=100)  
print("Investment 1 is worth $" + str(round(-investment\_1, 2)) + " in today's dollars")  
  
# Calculate investment\_2  
investment\_2 = np.pv(rate=0.03, nper=50, pmt=0, fv=100)  
print("Investment 2 is worth $" + str(round(-investment\_2, 2)) + " in today's dollars")  
  
# Calculate investment\_3  
investment\_3 = np.pv(rate=0.03, nper=100, pmt=0, fv=100)  
print("Investment 3 is worth $" + str(round(-investment\_3, 2)) + " in today's dollars")

# Answer Explanation (20 words):

The np.pv() function calculates the present value by discounting future $100 payments over given periods at 3% inflation.

