# Random Walk Simulation - Python Solution

## ✅ Python Code

# Set the simulation parameters  
mu = np.mean(StockReturns)  
vol = np.std(StockReturns)  
T = 252  
S0 = 10  
  
# Add one to the random returns  
rand\_rets = np.random.normal(mu, vol, T) + 1  
  
# Forecasted random walk  
forecasted\_values = S0 \* rand\_rets.cumprod()  
  
# Plot the random walk  
plt.plot(range(0, T), forecasted\_values)  
plt.show()

## 🧾 Explanation (50 words)

This code simulates 252 days of a stock's random walk using average return (mu) and volatility (vol). Random returns are generated using a normal distribution, then shifted by 1 and cumulatively multiplied. The result is scaled by the initial stock price (S0=10) to simulate a realistic price path.

## 📷 Screenshot

