4.Scenario: You are working on a project that involves analyzing the sales performance of a company over the past four quarters. The quarterly sales data is stored in a NumPy array named sales\_data, where each element represents the sales amount for a specific quarter. Your task is to calculate the total sales for the year and determine the percentage increase in sales from the first quarter to the fourth quarter.

Question: Using NumPy arrays and arithmetic operations calculate the total sales for the year and determine the percentage increase in sales from the first quarter to the fourth quarter?

Code:

import pandas as pd

import numpy as np

df = pd.read\_csv(r"C:\Users\jampa\OneDrive\文档\quarterly\_sales.csv")

sales\_data = df['Sales'].to\_numpy()

total\_sales = np.sum(sales\_data)

percentage\_increase = ((sales\_data[3] - sales\_data[0]) / sales\_data[0]) \* 100

print(f"Total sales for the year: ${total\_sales}")

print(f"Percentage increase from Q1 to Q4: {percentage\_increase:.2f}%")

output:

A screenshot of a computer code

AI-generated content may be incorrect.

Dataset:

|  |  |  |
| --- | --- | --- |
| Quarter | Sales |  |
| Q1 | 25795 |  |
| Q2 | 10860 |  |
| Q3 | 86820 |  |
| Q4 | 64886 |  |
|  |  |  |
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