# Monthly Sales Data Analysis using NumPy

## Python Code

import numpy as np  
  
# Create dummy sales data: 30 days, 4 products  
np.random.seed(0)  
sales\_data = np.random.randint(10, 100, size=(30, 4))  
  
products = ['Product A', 'Product B', 'Product C', 'Product D']  
  
# Analysis  
total\_units\_per\_product = np.sum(sales\_data, axis=0)  
average\_daily\_sales = np.mean(sales\_data, axis=0)  
total\_monthly\_sales = np.sum(sales\_data)  
best\_selling\_product\_index = np.argmax(total\_units\_per\_product)  
best\_selling\_product = products[best\_selling\_product\_index]  
daily\_sales\_totals = np.sum(sales\_data, axis=1)  
day\_highest\_sales = np.argmax(daily\_sales\_totals) + 1

## Output

Sales Data Matrix (first 5 days shown):  
[[54 57 74 77]  
 [77 19 93 31]  
 [46 97 80 98]  
 [98 22 68 75]  
 [49 97 56 98]]  
  
Total Units Sold per Product:  
Product A: 1723  
Product B: 1465  
Product C: 1586  
Product D: 1829  
  
Average Daily Sales per Product:  
Product A: 57.43  
Product B: 48.83  
Product C: 52.87  
Product D: 60.97  
  
Total Monthly Sales (All Products): 6603  
Best Selling Product: Product D (1829 units)  
Day with Highest Sales: Day 3