Day-1 Lab Experiments

Exp-1 calculate average score for each subject

```
import numpy as np

student_scores = np.loadtxt("Book.csv",delimiter=",",skiprows=1,usecols=(1, 2, 3, 4))

subjects = ["Math", "Science", "English", "History"]

average_scores = np.mean(student_scores, axis=0)

highest_subject = subjects[np.argmax(average_scores)]

print("Average scores:", np.round(average_scores,2))

print("Subject with highest average score:", highest_subject)
```

output:

```
...  Average scores: [81.97 82.56 82.97 82.88]
     Subject with highest average score: English
```

Start coding or generate with AI.

Exp-2 average price of all products and its percentage

```
import pandas as pd

df=pd.read_csv("Book1.csv")

average_price = df[df["Month_sales"]==" November 2023"]["Price"].mean()

print("Average price in November 2023 (Past Month): ",round(average_price, 2))
```

output:

```
...  Average price in November 2023 (Past Month):  nan
```

Exp-3 using numpy find average of the house sales

```python
import numpy as np

house_data = np.genfromtxt("Book2.csv", delimiter=",", skip_header=1)

avg_price = np.mean(house_data[house_data[:,0] > 4][:,2])

print(avg_price)
```

output:

```
···   24.01002004008016
```

Exp-4 find the year end sales using numpy

```python
sales_data = np.genfromtxt("sales.csv", delimiter=",", skip_header=1)

sales_data = sales_data[~np.isnan(sales_data)]

sales_data = sales_data[:4]

total_sales = np.sum(sales_data)

percent_increase = ((sales_data[3] - sales_data[0]) / sales_data[0]) * 100

print("Total yearly sales =", round(total_sales,2))

print("Percentage increase from Q1 to Q4 =", round(percent_increase,2), "%")
```

output:

```
    print("Total yearly sales =", round(total_sales,2))
    print("Percentage increase from Q1 to Q4 =", round(percent_increase,2), "%")

···  Total yearly sales = 6276.72
     Percentage increase from Q1 to Q4 = -85.48 %
```

Exp-5 using numpy find average efficiency of the fuel percentage

```python
import numpy as np

fuel = np.genfromtxt("fuel.csv", delimiter=",", skip_header=1)

avg_eff = np.mean(fuel)

percent_improve = ((fuel[-1]-fuel[0])/fuel[0])*100
```

```
print(avg_eff, percent_improve)
```

output:

```
Average Fuel Efficiency: 26.25 mpg
Percentage Improvement in Fuel Efficiency: 36.36 %
```