```python
import numpy as np

#sales
sales = np.array([250, 400, 300, 450, 500, 350, 600])

#stats
print("Sales Data:", sales)
print("Total Days:", sales.size)
print("Average Sales:", sales.mean())
print("Maximum Sales:", sales.max())
print("Minimum Sales:", sales.min())
```

```
Sales Data: [250 400 300 450 500 350 600]
Total Days: 7
Average Sales: 407.14285714285717
Maximum Sales: 600
Minimum Sales: 250
```

```python
import pandas as pd

#student data{given}
students = {
    "Name": ["Alice", "Bob", "Charlie", "David", "Ella"],
    "Age": [20, 22, 21, 23, 20],
    "Major": ["CS", "Math", "Physics", "CS", "Biology"]
}

df_students = pd.DataFrame(students)

#output
print(df_students.head())
print("Shape of DataFrame:", df_students.shape)
```

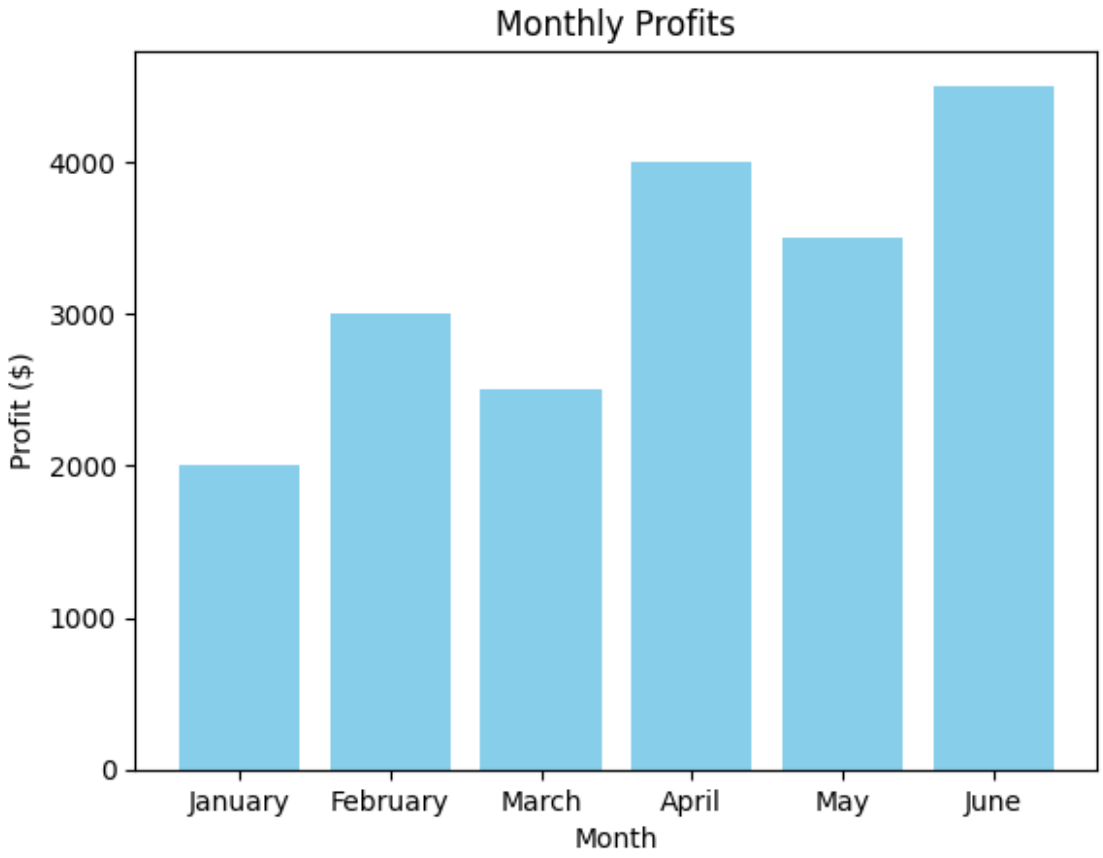
```
      Name  Age    Major
0    Alice   20       CS
1      Bob   22     Math
2  Charlie   21  Physics
3    David   23       CS
4     Ella   20  Biology
Shape of DataFrame: (5, 3)
```

```python
import matplotlib.pyplot as plt

#given
months = ["January", "February", "March", "April", "May", "June"]
profits = [2000, 3000, 2500, 4000, 3500, 4500]

# Bar chart making
plt.bar(months, profits, color='skyblue')
plt.title("Monthly Profits")
plt.xlabel("Month")
```

```
plt.ylabel("Profit ($)")
plt.show()
```




```
# Creating a 2D NumPy array for temperature grid
temps = np.array([
    [30, 32, 31, 29],
    [28, 27, 26, 25],
    [24, 22, 21, 23],
    [20, 19, 18, 17]
])

# Sliceing through middle 2x2 grid
middle_section = temps[1:3, 1:3]
print("Middle Section:\n", middle_section)

#changing array to 2x8
reshaped = temps.reshape(2, 8)
print("Reshaped Array:\n", reshaped)
```

```
Middle Section:
 [[27 26]
 [22 21]]
Reshaped Array:
```

```
 [[30 32 31 29 28 27 26 25]
 [24 22 21 23 20 19 18 17]]
```

```python
# Fruit DataFrame
inventory = pd.DataFrame({
    "Fruit": ["Apple", "Banana", "Cherry", "Date", "Elderberry"],
    "Quantity": [50, 20, 5, 12, 3],
    "Price": [100, 30, 150, 90, 200]
})

# Filter products with both Quantity < 15 and Price > 50
filtered = inventory[(inventory["Quantity"] < 15) &
(inventory["Price"] > 50)]

print("Filtered Fruits:\n", filtered)
```

```
Filtered Fruits:
         Fruit  Quantity  Price
2      Cherry         5    150
3        Date        12     90
4  Elderberry         3    200
```