1.Write a function that takes two arguments and returns their sum.

2 Write a program that checks if a given number is even or odd using if-else statements.

3.Write a Python loop that prints the first 10 positive integers in ascending order.

4.Create a NumPy array containing the values [1, 2, 3, 4, 5].

5.Generate a 1D NumPy array with 5 random values between 0 and 1.

6.Add two NumPy arrays element-wise.

7.arr = np.array([[1, 2, 3], [4, 5, 6]])

Returns a tuple representing the dimensions of the array.

8.data = {
    'Name': ['Alice', 'Bob', 'Charlie', 'David', 'Emily'],
    'Age': [25, 30, 22, 28, 24],
    'City': ['New York', 'Los Angeles', 'Chicago', 'Houston', 'Miami']
}

Create a dataframe using above data

9.

```python
# Using df.loc[] to access rows and columns by labels
alice_data = df.loc[0]  # Access data for Alice
grades = df.loc[:, 'Grade']  # Access 'Grade' column


print(alice_data)


print(grades)
```

select the rows where the 'Age' column is greater than 25 from the given practice table1.

10

```python
import pandas as pd


data = {'Date': ['2023-01-15', '2023-03-20', '2023-06-10']}
df = pd.DataFrame(data)
# Convert the 'Date' column to datetime objects
df['Date'] = pd.to_datetime(df['Date'])


print(df['Date'])
```
Convert the 'Date' column in the given DataFrame to datetime format .
```python
data = {
    'Name': ['Alice', 'Bob', 'Carol'],
    'Date': ['2022-03-15', '2021-09-10', '2023-01-25']
}
```

11.You are given a CSV file("sales_data.csv") containing sales data of a company with columns: Date, Product, Units Sold, Price per Unit. Write a Python script to:

- Load the data into a pandas DataFrame.
- Calculate the total sales for each product.
- Plot a bar chart showing the total sales for each product using matplotlib

12

Matrix Operations

You are given two numpy arrays, A and B, representing matrices. Write a Python script to:

- Compute the dot product of A and B.
- Calculate the determinant of A.
- Plot a heatmap of matrix B using matplotlib.