Task Report:

Data Manipulation with Custom NumPy Data Type

Objective:

The objective of this task was to develop a Python script that can create a custom NumPy data type, use it to store data in an array, and perform data manipulation operations.

Task Description:

The task involved creating a custom NumPy data type and using it in an array to store and manipulate data. The task required defining a custom data type, creating an array with the custom data type, and performing data manipulation operations such as appending new data.

Approach:

1. Defining a custom data type: A custom NumPy data type was defined using np.dtype to specify the structure of the data, including two fields: name and Id.
2. Creating an array with the custom data type: An array was created using np.array with the custom data type, and initialized with sample data.
3. Printing the initial array: The initial array was printed to display the stored data.
4. Accessing specific fields: The name and Id fields were accessed and printed separately to demonstrate data manipulation.
5. Appending new data: A new person's details were added to the array using np.append, and the updated array was printed.

Conclusion:

The task was successfully completed by creating a custom NumPy data type, using it in an array, and performing data manipulation operations. This task demonstrates the power of NumPy in creating custom data types and performing efficient data manipulation operations.