Numpy Basic

Assignment Questions

Consider the below code to answer further questions:

```python
import numpy as np
list_ = [ '1' , '2' , '3' , '4' , '5' ]
array_list = np.array(object = list_)
```

Q1. Is there any difference in the data type of variables list_ and array_list? If there is then write a code to print the data types of both the variables.

Q2. Write a code to print the data type of each and every element of both the variables list_ and arra_list.

Q3. Considering the following changes in the variable, array_list:

```python
array_list = np.array(object = list_, dtype = int)
```

Will there be any difference in the data type of the elements present in both the variables, list_ and arra_list? If so then print the data types of each and every element present in both the variables, list_ and arra_list.

Consider the below code to answer further questions:

```python
import numpy as np

num_list = [ [ 1 , 2 , 3 ] , [ 4 , 5 , 6 ] ]

num_array = np.array(object = num_list)
```

Q4. Write a code to find the following characteristics of variable, num_array:
(i) shape
(ii) size

Q5. Write a code to create numpy array of 3*3 matrix containing zeros only, using a numpy array creation function.
[Hint: The size of the array will be 9 and the shape will be (3,3).]

Q6. Create an identity matrix of shape (5,5) using numpy functions?
[Hint: An identity matrix is a matrix containing 1 diagonally and other elements will be 0.]

Note: *Create your assignment in Jupyter notebook and upload it in GitHub & share that github repository link through your dashboard. Make sure the repository is public.*