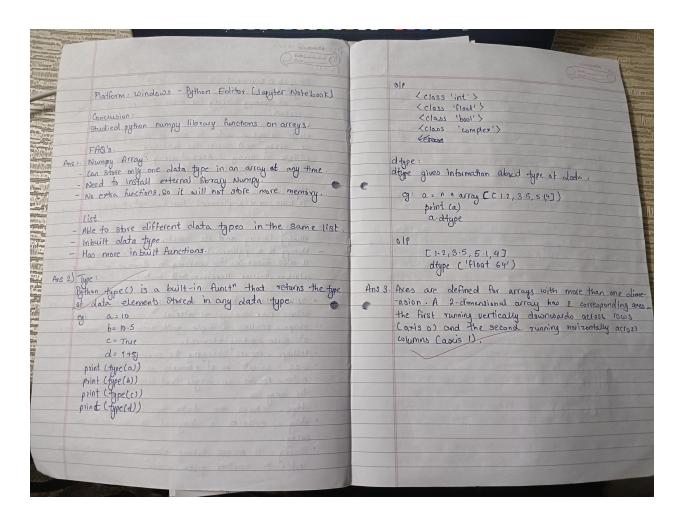
Devanshy Surana 1032210755 PC-12. PP Lab Assignment -8 Prog Problem Statement Use of Numpy library for muti-dimensional array operation. Any in red constraint your dil permet noting bailant Write a python code to use a Numpy module create an array and checks the following: 1. Type of array. 2. Axes of array 3. Shape of Array 4. Type 1st elements in Array. Install external library Number Objectives my store than I'm to as entitled attend attended To learn and implement Functions of Numpy Library. Able to store elifferent clota types in theyroadTe list Numpy Library and its functions it atolo Hivan Numpy is a python library used for working with arrays It also functions for working in domain of linear algebra, tourier transform and matrices. Pathon toot that air thind out to the · arrange() = creates an array by using the evenly spaced values over the given interval. · shape = returns a tuple with each index having the no. of corresponding elements. · reshape = means changing the shape of array. · Size = count no of elements on a given axis. - ndim = returns an integer that fells how many dimension the our ay has. dtype = returns the data type of array, diag = extracts a diagonal or constructs a diagonal Slicing = It means taking elements from one given index to another given index.



```
In [1]: import numpy
          arr = numpy . array ([1 , 2, 3, 4, 5])
print ( arr )
          import numpy as np
a = np.array([1, 2, 3, 4, 5])
          print(a)
          print(type(a))
          [1 2 3 4 5]
          [1 2 3 4 5]
          <class 'numpy.ndarray'>
 In [3]: import numpy as np
          arr = np. array (42)
          print ( arr )
          arr1 = np.array([1, 2, 3, 4, 5])
          print(arr1)
          arr2 = np.array([[1, 2, 3], [4, 5, 6]])
          print(arr2)
          arr3 = np.array([[[0, 1], [2, 3]], [[4, 5], [6, 7]]])
          [1 2 3 4 5]
          [[1 2 3]
           [4 5 6]]
In [17]: import numpy as np
          a = np.array([(1,2,3)])
          print(a.dtype)
          arr = a.astype('float64')
          print(arr)
          print(arr.dtype)
          s = np.array(['Ram', 'Robert', 'Rahim'])
          s.dtype
          [[1. 2. 3.]]
          float64
Out[17]: dtype('<U6')</pre>
In [16]: a = np.array([1, 2, 3, 4])
          print(a + 1)
print(a**2)
          b = np.ones(4) + 1
          print(b)
          b = np.zeros((3,3)) + 1
          print(b)
          c = np.eye(3)
          d = np.eye(3, 2)
          a = np.diag([1, 2, 3, 4])
          print(a[2, 2])
          [2 3 4 5]
          [ 1 4 9 16]
[2. 2. 2. 2.]
          [[1. 1. 1.]
           [1. 1. 1.]
           [1. 1. 1.]]
```