

**Data Structures and NumPy Assignment**

[support@intellipaat.com](mailto:support@intellipaat.com)

+91-7022374614

US: 1-800-216-8930 (Toll Free)

**Instructions for the Assignment**

1. Use a single file in Jupyter Notebook or Goggle collab for the entire assignment.
2. Download the Assignment file (File> Download > Download as .ipynb), compress it in a Zip folder and submit through LMS only.
3. Submit the Assignment by 3rd February 2022 without fail.
4. This Assignment is an Exam kind and is considered for the evaluation and certification. No support is provided by our technical team.
5. If you have any doubts how to work on this assignment (No technical support), please drop an email to [support@intellipaat.com](mailto:support@intellipaat.com)

**FINAL ASSIGNMENT**

1. Create a list named ‘myList’ that has the following elements: 10,20,30,’apple’, True, 8.10.

a. Now in the ‘myList’, append these values: 30,40

b. After that reverse the elements of the ‘myList’ and store that in ‘reversedList’

1. Create a dictionary ‘Country’ that maps the following countries to their capitals respectively:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Country | India | China | Japan | Qatar | France |
| State | Delhi | Beijing | Tokyo | Doha | Marseilles |

Find 2 commands to replace “**Marseilles**” with **“Paris”.**

1. Create the tuples given below

tuple\_1 = (1,5,6,7,8)

tuple\_2 = (8,9,4)

Identify which of the following code does not work on a tuple.

1. a) sum(tuple\_1)
2. b) len(tuple\_2)
3. c) tuple\_2 + tuple\_1
4. d) tuple\_1[3] = 45
5. Create two tuples named numeric\_tuple consisting of only integer values 10,20,30,40,50 and my\_tuple which will have 30,60,50,’tup’ values

a. Find the minimum value from the numeric\_tuple.

b. Concatenate my\_tuple with numeric\_tuple and store the result in r1.

c. Duplicate the tuple named my\_tuple 2 times and store that in ‘newdupli’.

1. Find the total number of elements present in the below set:



1. Create an array with whole numbers values from 0 to 10 and find what is the command to extract the elements in the following sequence -

array ([7,4,1])

1. Create a NumPy array having user input values and convert the integer type to the float type of the elements of the array. For instance:

Original array [1, 2, 3, 4]

Array converted to a float type: [ 1. 2. 3. 4.]

1. Write a NumPy program to append values to the end of an array. For instance:

Original array: [10, 20, 30]

After append values to the end of the array:

[10 20 30 40 50 60 70 80 90]

1. Create a 2 dimensional array with 3 rows and 3 columns containing random numbers from 1 to 9. Find the difference between the maximum element across the columns and the minimum element across the rows.
2. Create a 3\*3 array having values from 10-90(interval of 10) and store that in array1. Perform the following tasks:

a. Extract the 1st row from the array.

b. Extract the last element from the array.

