

ASSIGNMENT – 1

PYTHON FOR DATA SCIENCE

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➤ MCQS

1) **What will be the output of the following code?**

```
import numpy as Np  
  
arr = np.arange(1, 5, 2)  
  
print(arr)
```

- a) [1, 2, 3, 4]
- b) [1, 3]
- c) [1, 2, 5]
- d) [1, 5]

Answer : B) [1,3]

Explanation - arange(start, stop, step) excludes stop value.

2) **Which of the following is not a sequence type?**

- a) List
- b) Tuple
- c) Dictionary
- d) String

Answer: c) Dictionary

Explanation - Dict is mapping, not sequence.

➤ DESCRIPTIVE QUESTION (7 marks)

1) **Given the list :**

```
data = [10, 20, 30, 40, 50]
```

Write Python code to demonstrate:

- I. **Slicing to extract [20, 30, 40].**
- II. **Repetition to create [10, 20, 30, 40, 50, 10, 20, 30, 40, 50].**
- III. **Concatenation with [60, 70].**
- IV. **Membership check for 30.**
- V. **Using append(), insert(), and remove() methods.**

Answer :

```
data = [10, 20, 30, 40, 50]
```

```
print(data[1:4])      # [20, 30, 40]
print(data * 2)       # repetition - [10, 20, 30, 40, 50, 10, 20, 30, 40, 50]
print(data + [60, 70]) # concatenation - [10, 20, 30, 40, 50, 60, 70]
print(30 in data)     # True
data.append(60)       # adds 60 at end - [10, 20, 30, 40, 50, 60]
data.insert(1, 15)    # inserts 15 at index 1 - [10, 15, 20, 30, 40, 50, 60]
data.remove(40)       # removes first occurrence of 40 - [10, 15, 20, 30, 50, 60]
print(data)          #final data - [10, 15, 20, 30, 50, 60]
```

Marking Scheme –

- Slicing (1 mark)
- Repetition (1 mark)
- Concatenation (1 mark)
- Membership (1 mark)
- Append/Insert/Remove methods (3 marks)