

Assignment - 1

1. Spyder is best described as
 - a) A web browser
 - b) An Integrated Development Environment (IDE) for Python
 - c) A data visualization library
 - d) A database management system

Answer: b) An Integrated Development Environment (IDE) for Python

2. The **Variable Explorer** in Spyder allows you to:
 - a) Write Python scripts
 - b) View and edit variables in memory (like arrays, lists, DataFrames)
 - c) Install libraries
 - d) Debug syntax errors

Answer: b) View and edit variables in memory (like arrays, lists, DataFrames)

3. Write a Python program that takes a number from the user, stores it in a variable, and then:
 - a. Prints whether the number is an integer or float.
 - b. Converts the number into a string and prints its type

Answer :

```
num = input("Enter a number: ")

num = float(num)

if num.is_integer():

    print("The number is Integer")

else:

    print("The number is Float")

num_str = str(num)

print("After conversion:", num_str, ", Type:", type(num_str))
```

output:

Enter a number: 12

The number is Integer

After conversion: 12.0 , Type: <class 'str'>

Enter a number: 12.5

The number is Float

After conversion: 12.5 , Type: <class 'str'>

1. Which of the following is **not a sequence data type in Python?**

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

Answer: c) Dictionary

2. Which Python function is used to find the **length of a sequence like a list or string?**

- a) count()
- b) len()
- c) size()
- d) length()

Answer: b) len()

3. Write a Python program to create a list of numbers from **1 to 10.**

- a. Print only the even numbers using list slicing or comprehension.
- b. Convert the list into a NumPy array and calculate the **mean** of the numbers.

Answer:

```
import numpy as np
```

```
numbers = list(range(1, 11))  
even_numbers = [n for n in numbers if n % 2 == 0]  
print("Even numbers:", even_numbers)  
arr = np.array(numbers)  
print("Mean of numbers:", arr.mean())
```

output:

Even numbers: [2, 4, 6, 8, 10]

Mean of numbers: 5.5