


CH.EN.U4CYS21013

TASK -8

Q1



The screenshot shows an IDE with a dark theme. The main editor window displays a Python script with the following code:

```

1 # importing numpy
2 import numpy as np
3
4 Z = np.array([10, 11, 12, 13, 14])
5 nz = 5
6 Z0 = np.zeros(len(Z) + (len(Z)-1)*(nz))
7 Z0[nz:] = Z
8 print(Z0)
9
10

```

Below the editor, the 'Run' window is open, showing the command used to execute the script:

```

"C:\Users\DINAKAR S\AppData\Local\Programs\Python\Python310\python.exe" "C:/Users/DINAKAR S/

```

The output of the script is displayed below the command:

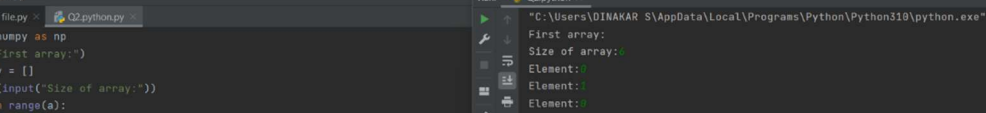
```

[10.  0.  0.  0.  0. 11.  0.  0. 11.  0.  0.  0. 12.  0.  0.  0.  0.  0.
 13.  0.  0.  0.  0. 14.]

```

At the bottom of the Run window, it states: "Process finished with exit code 0".

Q2



The screenshot displays a code editor with a Python script and a terminal window showing its execution. The script defines two arrays, `my_array` and `my_array1`, based on user input for size and elements. It then checks if the arrays are equal using `np.allclose`.

```
1 import numpy as np
2 print("First array:")
3 my_array = []
4 a = int(input("Size of array:"))
5 for i in range(a):
6     my_array.append(float(input("Element:")))
7 my_array = np.array(my_array)
8 print("First array")
9 print(np.floor(my_array))
10 print("Second array")
11 my_array1 = []
12 a = int(input("Size of array:"))
13 for i in range(a):
14     my_array1.append(float(input("Element:")))
15 my_array1 = np.array(my_array1)
16 print(np.floor(my_array1))
17
18 print("Test above two arrays are equal or not!")
19 array_equal = np.allclose(np.floor(my_array), np.floor(my_array1))
20 print(array_equal)
```

The terminal output shows the execution of the script, including prompts for array size and elements, the resulting arrays, and the final test result: `True`.

Q3

The screenshot shows an IDE with a Python script on the left and its execution output on the right.

Python Script (Left Panel):

```

1 import numpy as np
2 print(0 * np.nan)
3 print(np.nan != np.nan)
4 print(np.inf > np.nan)
5 print(np.nan - np.nan)
6 print(0.3 == 3 * 0.1)

```

Execution Output (Right Panel):

Run - Downloads

Run: Q2.python x Q3.python x

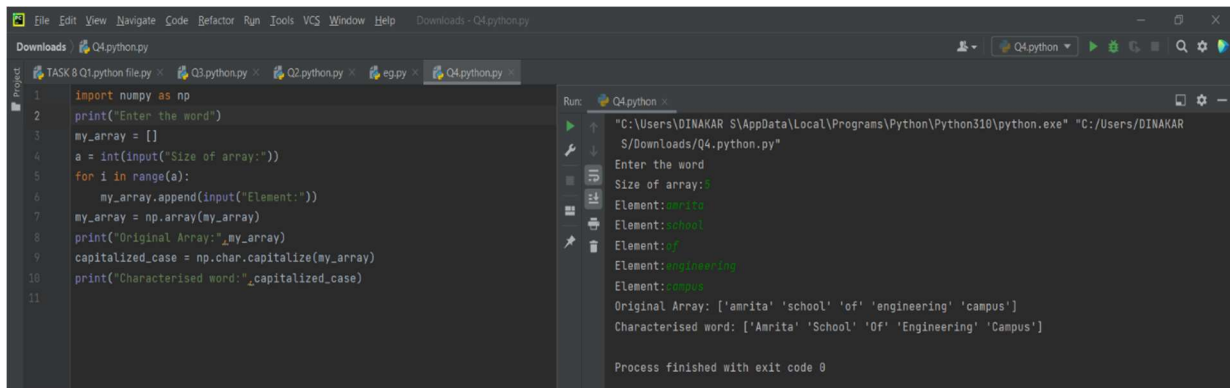
```

"C:\Users\DINAKAR S\AppData\Local\Programs\Python\Python310\python.exe" "C:/Users/DINAKAR S/
nan
True
False
nan
False

```

Process finished with exit code 0

Q4



```
1 import numpy as np
2 print("Enter the word")
3 my_array = []
4 a = int(input("Size of array:"))
5 for i in range(a):
6     my_array.append(input("Element:"))
7 my_array = np.array(my_array)
8 print("Original Array:", my_array)
9 capitalized_case = np.char.capitalize(my_array)
10 print("Characterised word:", capitalized_case)
11
```

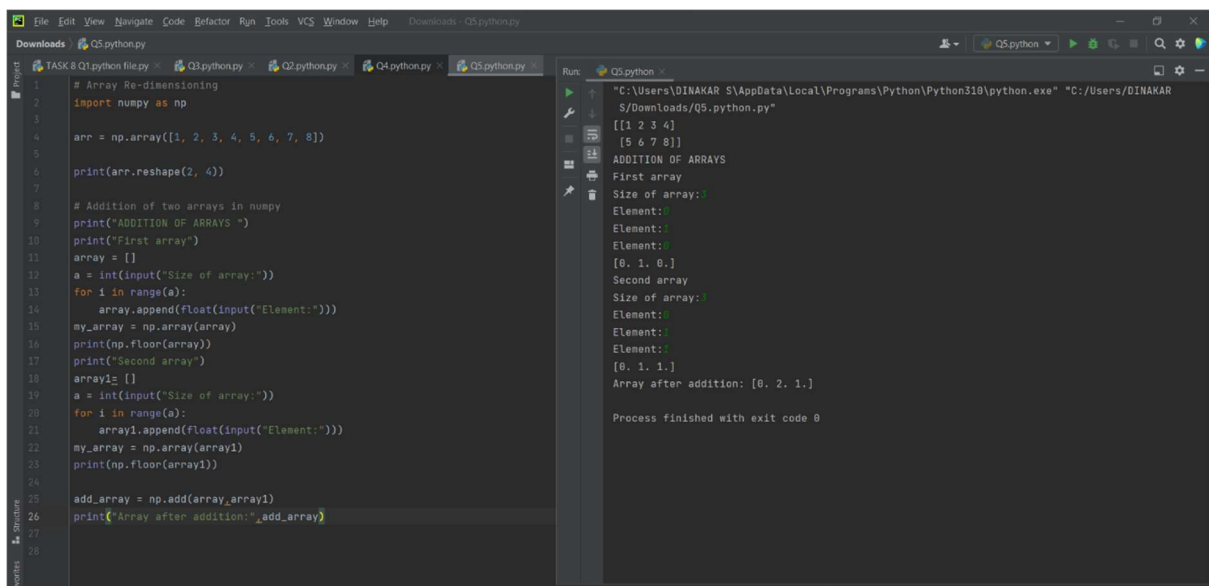
Run: Q4.py

"C:\Users\DINAKAR S\AppData\Local\Programs\Python\Python310\python.exe" "C:/Users/DINAKAR S/Downloads/Q4.py"

Enter the word
Size of array:5
Element:amrita
Element:school
Element:of
Element:engineering
Element:campus
Original Array: ['amrita' 'school' 'of' 'engineering' 'campus']
Characterised word: ['Amrita' 'School' 'Of' 'Engineering' 'Campus']

Process finished with exit code 0

Q5



```
1 # Array Re-dimensioning
2 import numpy as np
3
4 arr = np.array([1, 2, 3, 4, 5, 6, 7, 8])
5
6 print(arr.reshape(2, 4))
7
8 # Addition of two arrays in numpy
9 print("ADDITION OF ARRAYS ")
10 print("First array")
11 array = []
12 a = int(input("Size of array:"))
13 for i in range(a):
14     array.append(float(input("Element:")))
15 my_array = np.array(array)
16 print(np.floor(array))
17 print("Second array")
18 array1 = []
19 a = int(input("Size of array:"))
20 for i in range(a):
21     array1.append(float(input("Element:")))
22 my_array = np.array(array1)
23 print(np.floor(array1))
24
25 add_array = np.add(array, array1)
26 print("Array after addition:", add_array)
27
28
```

Run: Q5.py

"C:\Users\DINAKAR S\AppData\Local\Programs\Python\Python310\python.exe" "C:/Users/DINAKAR S/Downloads/Q5.py"

[[1 2 3 4]
 [5 6 7 8]]
ADDITION OF ARRAYS
First array
Size of array:3
Element:0
Element:1
Element:0
[0. 1. 0.]
Second array
Size of array:3
Element:0
Element:1
Element:1
[0. 1. 1.]
Array after addition: [0. 2. 1.]

Process finished with exit code 0