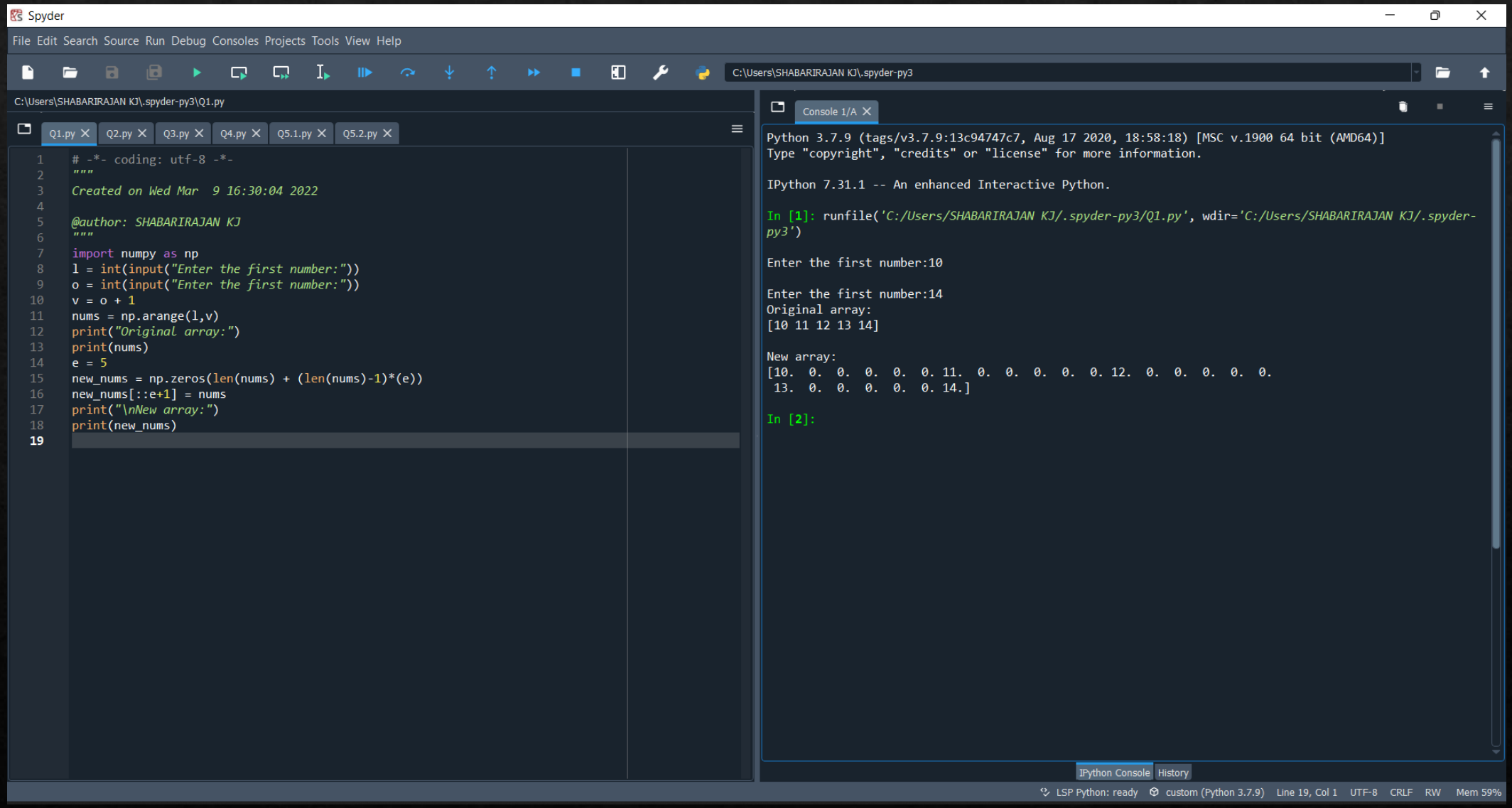
COGNIZANCE TASK – 8

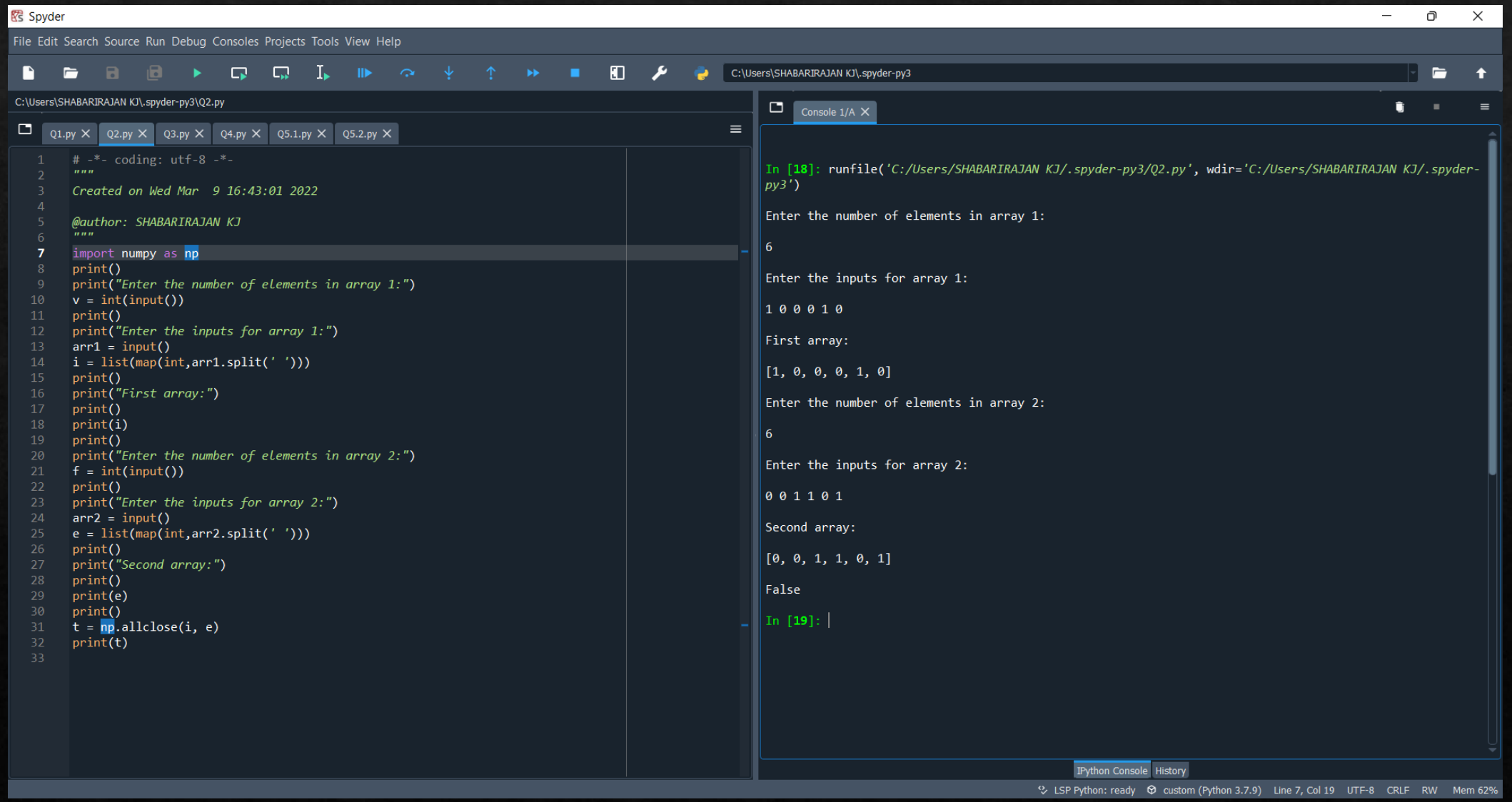
[PYTHON - MEDICORE LVL]

SHABARIRAJAN KJ

Question-1


Spyder
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\SHABARIRAJAN KJ\.spyder-py3
C:\Users\SHABARIRAJAN KJ\.spyder-py3\Q1.py
Q1.py Q2.py Q3.py Q4.py Q5.1.py Q5.2.py
1 # -*- coding: utf-8 -*-
2 """
3 Created on Wed Mar 9 16:30:04 2022
4
5 @author: SHABARIRAJAN KJ
6 """
7 import numpy as np
8 l = int(input("Enter the first number:"))
9 o = int(input("Enter the first number:"))
10 v = o + 1
11 nums = np.arange(l,v)
12 print("Original array:")
13 print(nums)
14 e = 5
15 new_nums = np.zeros(len(nums) + (len(nums)-1)*(e))
16 new_nums[::e+1] = nums
17 print("\nNew array:")
18 print(new_nums)
19
Console 1/A
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:58:18) [MSC v.1900 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.
IPython 7.31.1 -- An enhanced Interactive Python.
In [1]: runfile('C:/Users/SHABARIRAJAN KJ/.spyder-py3/Q1.py', wdir='C:/Users/SHABARIRAJAN KJ/.spyder-py3')
Enter the first number:10
Enter the first number:14
Original array:
[10 11 12 13 14]
New array:
[10. 0. 0. 0. 0. 0. 11. 0. 0. 0. 0. 0. 12. 0. 0. 0. 0. 0.
13. 0. 0. 0. 0. 0. 14.]
In [2]:
IPython Console History
LSP Python: ready custom (Python 3.7.9) Line 19, Col 1 UTF-8 CRLF RW Mem 59%

Question-2


Spyder
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\SHABARIRAJAN KJ\.spyder-py3
C:\Users\SHABARIRAJAN KJ\.spyder-py3\Q2.py
Q1.py Q2.py Q3.py Q4.py Q5.1.py Q5.2.py
1 # -*- coding: utf-8 -*-
2 """
3 Created on Wed Mar 9 16:43:01 2022
4
5 @author: SHABARIRAJAN KJ
6 """
7 import numpy as np
8 print()
9 print("Enter the number of elements in array 1:")
10 v = int(input())
11 print()
12 print("Enter the inputs for array 1:")
13 arr1 = input()
14 i = list(map(int,arr1.split(' ')))
15 print()
16 print("First array:")
17 print()
18 print(i)
19 print()
20 print("Enter the number of elements in array 2:")
21 f = int(input())
22 print()
23 print("Enter the inputs for array 2:")
24 arr2 = input()
25 e = list(map(int,arr2.split(' ')))
26 print()
27 print("Second array:")
28 print()
29 print(e)
30 print()
31 t = np.allclose(i, e)
32 print(t)
33
Console 1/A
In [18]: runfile('C:/Users/SHABARIRAJAN KJ/.spyder-py3/Q2.py', wdir='C:/Users/SHABARIRAJAN KJ/.spyder-py3')
Enter the number of elements in array 1:
6
Enter the inputs for array 1:
1 0 0 0 1 0
First array:
[1, 0, 0, 0, 1, 0]
Enter the number of elements in array 2:
6
Enter the inputs for array 2:
0 0 1 1 0 1
Second array:
[0, 0, 1, 1, 0, 1]
False
In [19]:
IPython Console History
LSP Python: ready custom (Python 3.7.9) Line 7, Col 19 UTF-8 CRLF RW Mem 62%

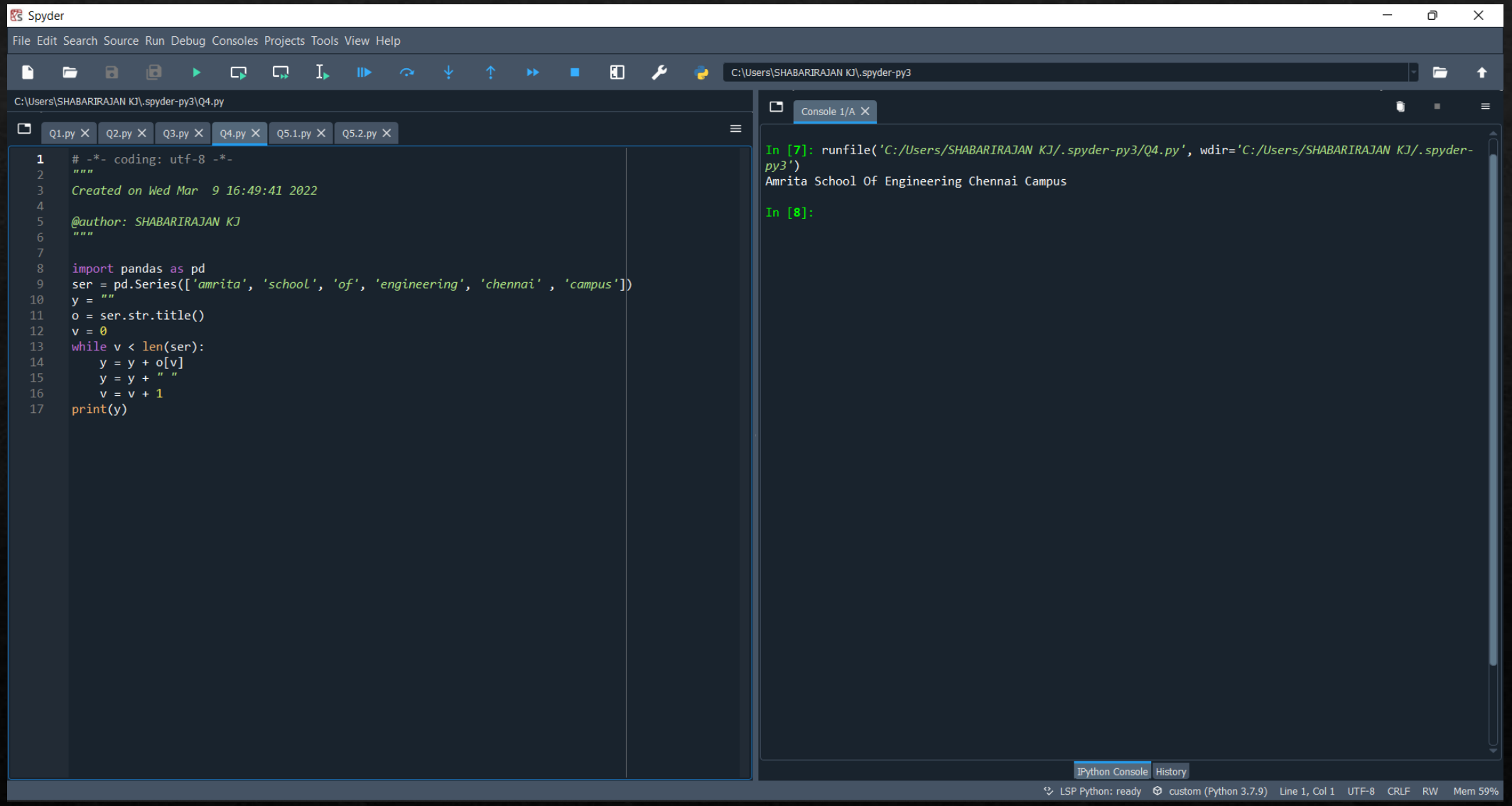
Question-3

What is the result of the following expression ?

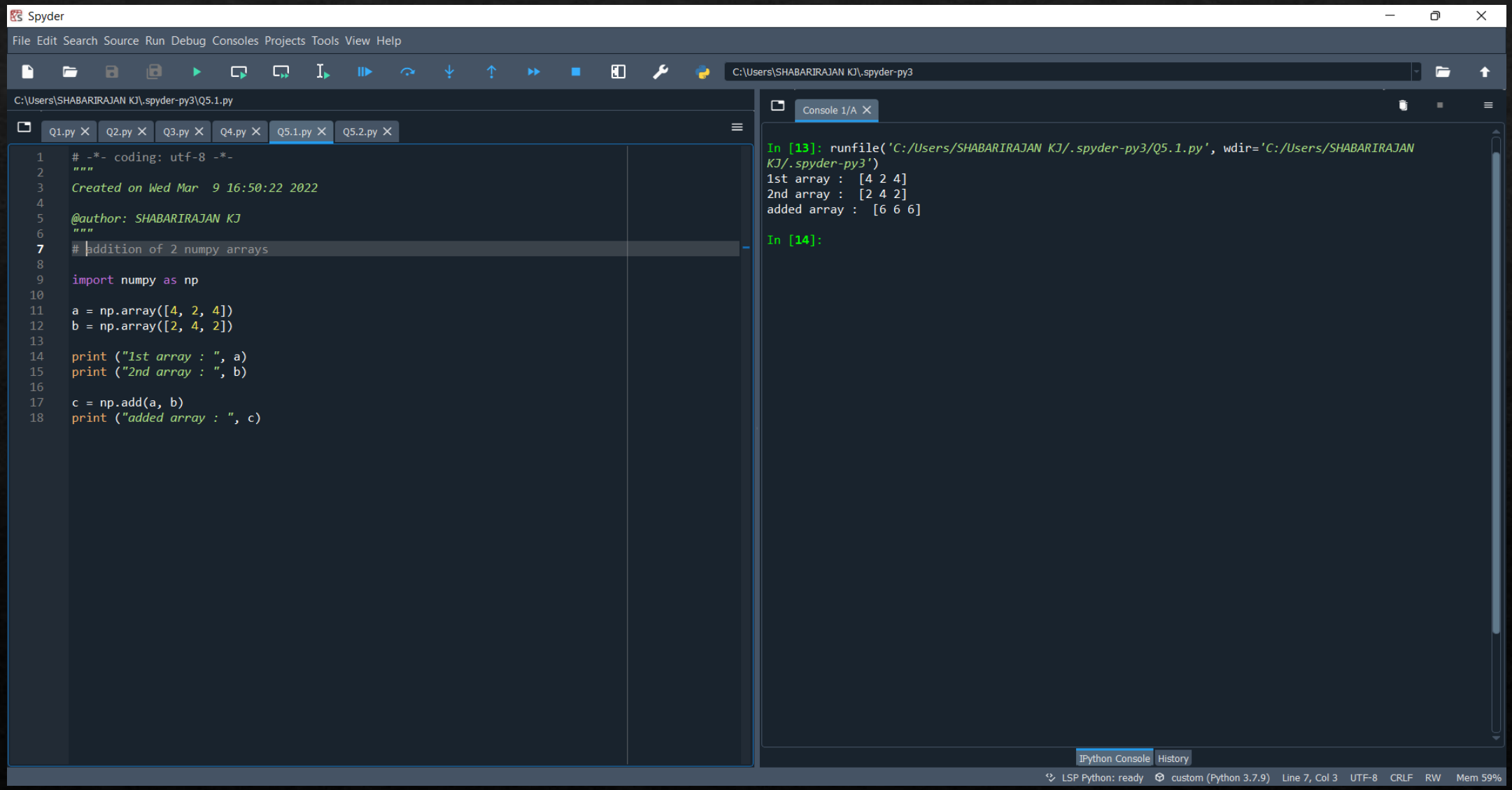
```
print(0 * np.nan)
print(np.nan != np.nan)
print(np.inf > np.nan)
print(np.nan - np.nan)
print(0.3 == 3 * 0.1)
```

Ans: nan
True
False
nan
False

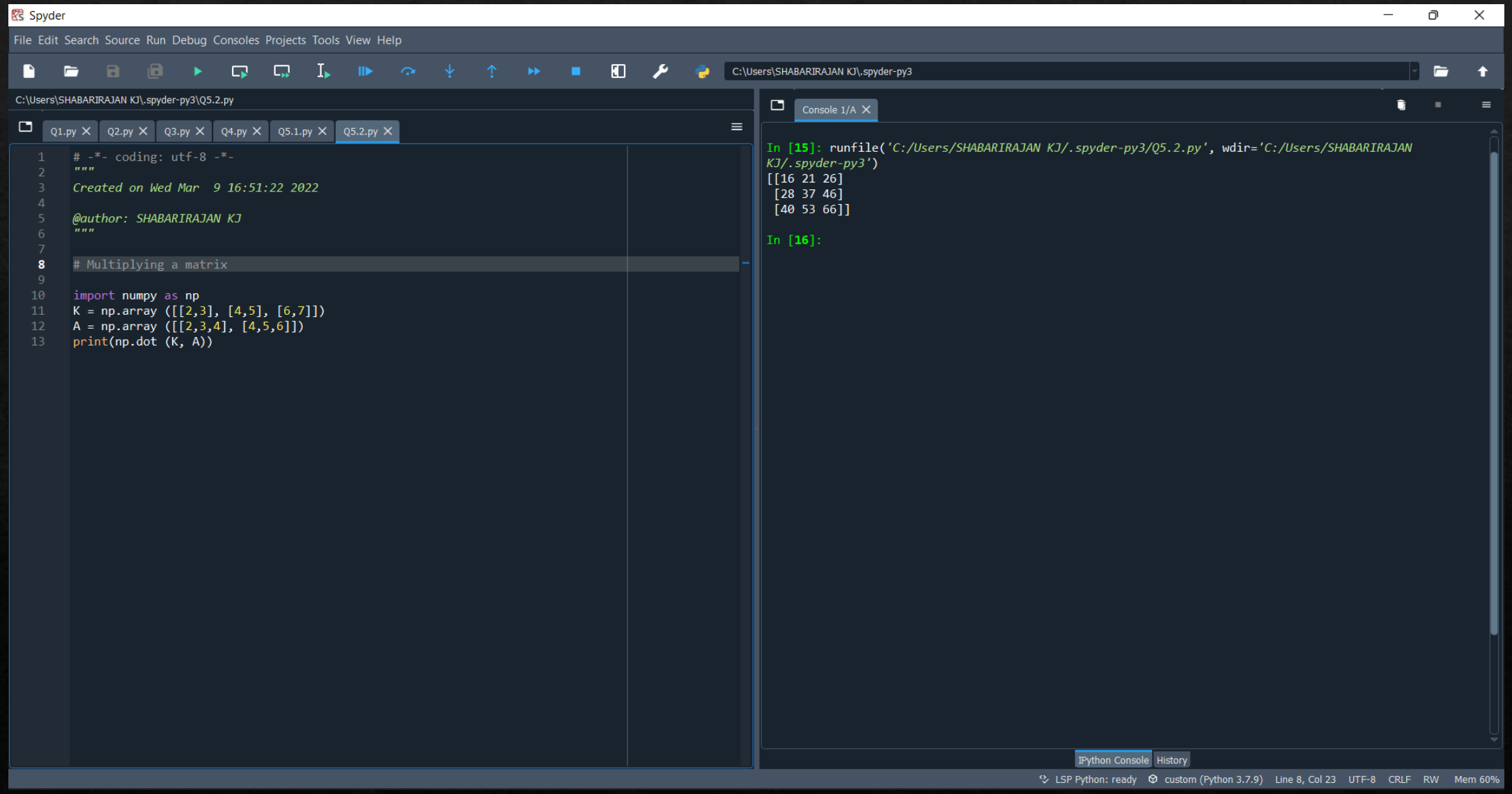
Question-4


Spyder
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\SHABARIRAJAN KJ\.spyder-py3
C:\Users\SHABARIRAJAN KJ\.spyder-py3\Q4.py
Q1.py Q2.py Q3.py Q4.py Q5.1.py Q5.2.py
-*- coding: utf-8 -*-
"""
Created on Wed Mar 9 16:49:41 2022
@author: SHABARIRAJAN KJ
"""
import pandas as pd
ser = pd.Series(['amrita', 'school', 'of', 'engineering', 'chennai' , 'campus'])
y = ""
o = ser.str.title()
v = 0
while v < len(ser):
y = y + o[v]
y = y + " "
v = v + 1
print(y)
Console 1/A
In [7]: runfile('C:/Users/SHABARIRAJAN KJ/.spyder-py3/Q4.py', wdir='C:/Users/SHABARIRAJAN KJ/.spyder-py3')
Amrita School Of Engineering Chennai Campus
In [8]:
IPython Console History
LSP Python: ready custom (Python 3.7.9) Line 1, Col 1 UTF-8 CRLF RW Mem 59%

Question-5.1


Spyder
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\SHABARIRAJAN KJ\.spyder-py3
C:\Users\SHABARIRAJAN KJ\.spyder-py3\Q5.1.py
Q1.py Q2.py Q3.py Q4.py Q5.1.py Q5.2.py
-*- coding: utf-8 -*-
"""
Created on Wed Mar 9 16:50:22 2022
@author: SHABARIRAJAN KJ
"""
# addition of 2 numpy arrays
import numpy as np
a = np.array([4, 2, 4])
b = np.array([2, 4, 2])
print ("1st array : ", a)
print ("2nd array : ", b)
c = np.add(a, b)
print ("added array : ", c)
Console 1/A
In [13]: runfile('C:/Users/SHABARIRAJAN KJ/.spyder-py3/Q5.1.py', wdir='C:/Users/SHABARIRAJAN KJ/.spyder-py3')
1st array : [4 2 4]
2nd array : [2 4 2]
added array : [6 6 6]
In [14]:
IPython Console History
LSP Python: ready custom (Python 3.7.9) Line 7, Col 3 UTF-8 CRLF RW Mem 59%

Question-5.2


Spyder
File Edit Search Source Run Debug Consoles Projects Tools View Help
C:\Users\SHABARIRAJAN KJ\.spyder-py3
C:\Users\SHABARIRAJAN KJ\.spyder-py3\Q5.2.py
Q1.py Q2.py Q3.py Q4.py Q5.1.py Q5.2.py
1 # -*- coding: utf-8 -*-
2 """
3 Created on Wed Mar 9 16:51:22 2022
4
5 @author: SHABARIRAJAN KJ
6 """
7
8 # Multiplying a matrix
9
10 import numpy as np
11 K = np.array ([[2,3], [4,5], [6,7]])
12 A = np.array ([[2,3,4], [4,5,6]])
13 print(np.dot (K, A))
Console 1/A
In [15]: runfile('C:/Users/SHABARIRAJAN KJ/.spyder-py3/Q5.2.py', wdir='C:/Users/SHABARIRAJAN KJ/.spyder-py3')
[[16 21 26]
[28 37 46]
[40 53 66]]
In [16]:
IPython Console History
LSP Python: ready custom (Python 3.7.9) Line 8, Col 23 UTF-8 CRLF RW Mem 60%