Q1.py - C:/Users/User/Downloads/Task 8/Q1.py (3.7.2)

File Edit Format Run Options Window Help

```
# Amirthavarshini V (21105)
# Question - 1
# Consider the vector [10, 11, 12, 13, 14], build a new vector with 5 consecutive zeros between each value?

import numpy as np
A = np.array([10,11,12,13,14])
na = 5
A0 = np.zeros(len(A) + (len(A)-1)*(na))
A0[::na+1] = A
print(A0)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
================ RESTART: C:/Users/User/Downloads/Task 8/Q1.py ================
[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.]
>>>
```

Ln: 7 Col: 4

Q2.py - C:/Users/User/Downloads/Task 8/Q2.py (3.7.2)

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```
# Amirthavarshini V (21105)
# Question - 2
# Consider two random array A anb B, check if they are equal

import numpy as np
arr1 = np.random.randint(0,10,10)
print("Array 1 :")
print(arr1)
arr2 = np.random.randint(0,10,10)
print("Array 2 :")
print(arr2)
arr3 = np.allclose(arr1, arr2)
print(arr3)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:
28) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for mo
re information.
>>>
================ RESTART: C:/Users/User/Downloads/Task 8/Q
2.py ================
Array 1 :
[8 4 6 8 0 2 8 9 3 2]
Array 2 :
[2 6 1 6 1 7 3 2 9 4]
False
>>>
```

Ln: 10 Col: 4

Q3.py - C:/Users/User/Downloads/Task 8/Q3.py (3.7.2)

File Edit Format Run Options Window Help

```
# Amirthavarshini V (21105)
# Question - 3
# Result of the following expression

import numpy as np
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)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28)
[MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more
information.
>>>
========== RESTART: C:/Users/User/Downloads/Task 8/Q3.p
y ==========
nan
True
False
nan
False
>>>
```

Ln: 10 Col: 4

Q4.py - C:/Users/User/Downloads/Task 8/Q4.py (3.7.2)

File Edit Format Run Options Window Help

```
# Amirthavarshini V (21105)
# Question - 4
# Convert the first character of each element in a series to uppercase

import pandas as pd
l = input("Enter your series of words in a list format : ")
s = pd.Series(l)
print("Result after capitalising each element of the series: ")
print(s.str.title())
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD
64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/User/Downloads/Task 8/Q4.py ==========
Enter your series of words in a list format : ['amrita','school','of','engineering']
Result after capitalising each element of the series:
0    ['Amrita','School','Of','Engineering']
dtype: object
>>>
```

Ln: 9 Col: 4

Q5_1.py - C:/Users/User/Downloads/Task 8/Q5_1.py (3.7.2)

File Edit Format Run Options Window Help

```
# Amirthavarshini V (21105)
# Question - 5
# Do any two Exercises using Numpy

# 1) addition of 2 numpy arrays

import numpy as np

#x = input("Enter array 1 : ")
#y = input("Enter array 2 : ")
arr1 = np.array([1,2,3,4])
arr2 = np.array([2,3,4,-5])
print("Array 1: ", arr1)
print("Array 2: ", arr2)
arr3 = np.add(arr1, arr2)
print ("Sum : ", arr3)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec
23 2018, 23:09:28) [MSC v.1916 64 bit (AMD
64)] on win32
Type "help", "copyright", "credits" or "li
cense()" for more information.
>>>
============== RESTART: C:/Users/User/Down
loads/Task 8/Q5_1.py ==============
Array 1:  [1 2 3 4]
Array 2:  [ 2  3  4 -5]
Sum :  [ 3  5  7 -1]
>>>
```

Ln: 8 Col: 4

Q5_7.py - C:/Users/User/Downloads/Task 8/Q5_7.py (3.7.2)

File Edit Format Run Options Window Help

```
# Amirthavarshini V (21105)
# Question - 5
# Do any two Exercises using Numpy

# 7) Getting the indexes where elements of 2 numpy arrays match

import numpy as np
arr1 = np.array([12,14,56,78,43,21])
arr2 = np.array([12,23,56,45,267,21])
print([x for x, y in enumerate(arr1) if y in set(arr2)])
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 23:09:28
) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more
information.
>>>
============== RESTART: C:/Users/User/Downloads/Task 8/Q5_7
.py ==============
[0, 2, 5]
>>>
```

Ln: 6 Col: 4