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Question-1:

Consider the vector [10, 11, 12, 13, 14], how to build a new vector with 5 consecutive zeros interleaved between each value?

OUTPUT:

```
PS C:\Users\rajashekarreddy\Downloads\cognizance> python -u "c:\Users\rajashekarreddy\Downloads\
first number :
10
second number :
14
[10, 11, 12, 13, 14]
5
[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.  0.  0.  0.  0.]
PS C:\Users\rajashekarreddy\Downloads\cognizance>
```

Question-2

Consider two random array A and B, check if they are equal

OUTPUT:

```
PS C:\Users\rajashekarreddy\Downloads\cognizance> python -u "
First array:
[0 1 0 0 1 1]
Second array:
[0 0 0 0 0 1]
Test above two arrays are equal or not!
False
```

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)

OUTPUT:

```
PS C:\Users\rajashekarreddy\Downloads\cognizance>
nan
True
False
nan
False
```

Question-4

Convert the first character of each element in a series to uppercase?

Sample Input

ser = pd.Series(['amrita', 'school', 'of', 'engineering' 'chennai' , 'campus'])

OUTPUT:

```
PS C:\Users\rajashekarreddy\Downloads\cognizance> python
original series:

amrita school of engineering chennai campus

Resulting Series :

Amrita School Of Engineering Chennai Campus
```

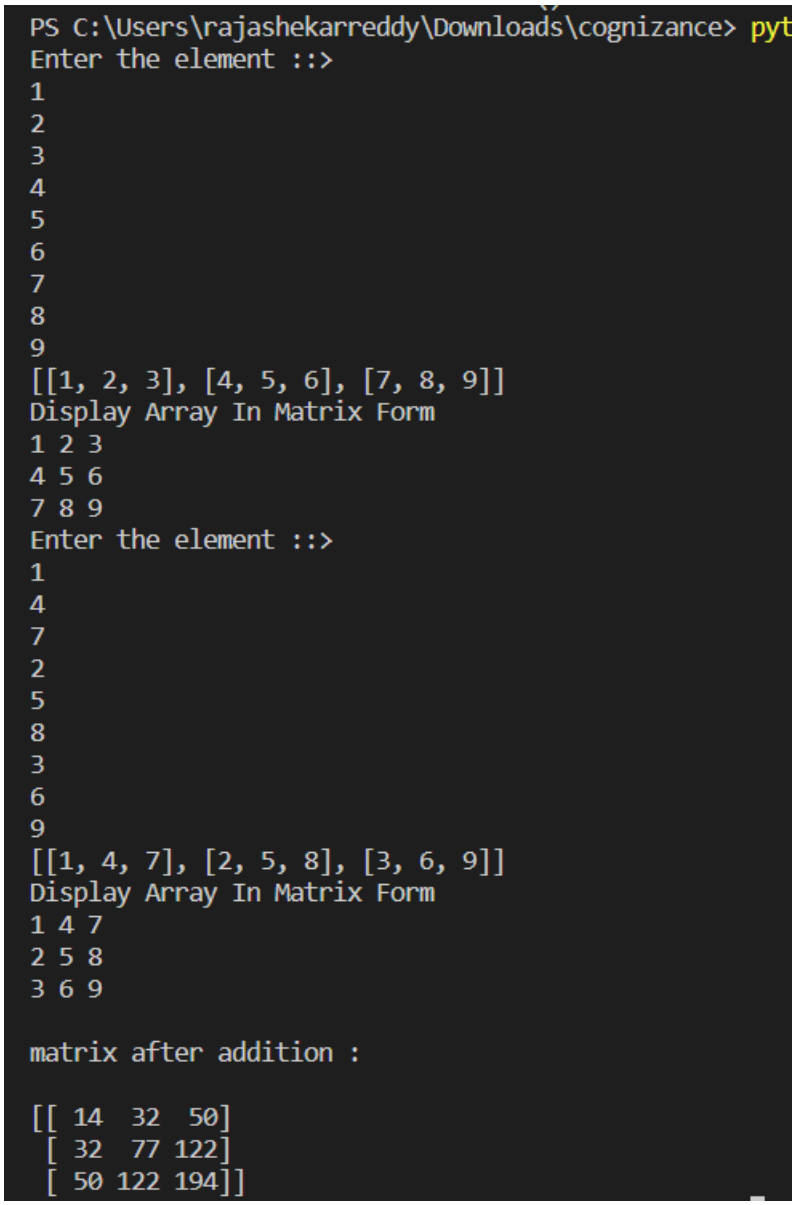
Question-5

Do any two Exercises using Numpy

Multiplying two matrixes

OUTPUT:

Question -5.2



Question -5.3

Identity matrix

OUTPUT: