

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

```
source /Users/sreeneha/neha/bin/activate
sreeneha@srees-MacBook-Air ~ % source /Users/sreeneha/neha/bin/activate
(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 1.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.]
(neha) sreeneha@srees-MacBook-Air ~ %
```

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

```
source /Users/sreeneha/neha/bin/activate
sreeneha@srees-MacBook-Air ~ % source /Users/sreeneha/neha/bin/activate
(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 2.py"
size of the list : 4
enter the elements : 0
enter the elements : 2
enter the elements : 3
enter the elements : 4
size of the list : 4
enter the elements : 5
enter the elements : 6
enter the elements : 7
enter the elements : 8
first array :
[0, 2, 3, 4]
second array :
[5, 6, 7, 8]
False
(neha) sreeneha@srees-MacBook-Air ~ %
```

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)
```

```
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(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 3.py"
nan
True
False
nan
False
(neha) sreeneha@srees-MacBook-Air ~ %
```

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

```
source /Users/sreeneha/neha/bin/activate
sreeneha@srees-MacBook-Air ~ % source /Users/sreeneha/neha/bin/activate
(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 4.py"
enter the string : i am neha
Sample input :
['i', 'am', 'neha']
Output :
I Am Neha
(neha) sreeneha@srees-MacBook-Air ~ %
```

5(ii).Multiplying a matrix

```
source /Users/sreeneha/neha/bin/activate
sreeneha@srees-MacBook-Air ~ % source /Users/sreeneha/neha/bin/activate
(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 5(ii).py"
enter the matrix with ; after each row : 1 2 4 ; 4 5 6 ; 5 9 3
enter the matrix 2 with row matching with matrix 1 : 4 5 6 ; 9 8 5 ; 6 5 2
[[1 2 4]
 [4 5 6]
 [5 9 3]]
[[4 5 6]
 [9 8 5]
 [6 5 2]]
[[ 46  41  24]
 [ 97  90  61]
 [119 112  81]]
(neha) sreeneha@srees-MacBook-Air ~ %
```

5(iii).Identity Matrix

```
source /Users/sreeneha/neha/bin/activate
sreeneha@srees-MacBook-Air ~ % source /Users/sreeneha/neha/bin/activate
(neha) sreeneha@srees-MacBook-Air ~ % /Users/sreeneha/neha/bin/python "/Users/sreeneha/Documents/GitHub/question 5.py"
enter the dimension : 4
[[1. 0. 0. 0.]
 [0. 1. 0. 0.]
 [0. 0. 1. 0.]
 [0. 0. 0. 1.]]
(neha) sreeneha@srees-MacBook-Air ~ %
```