Python program questions-output

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:

```
In [24]: runfile('C:/Users/ADMIN/Downloads/1.py', wdir='C:/Users/ADMIN/Downloads')
Horizontal Vector
[10 11 12 13 14]

New vector:
[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.]
```

Question-2 Consider two random array A anb B, check if they are equal

Output:

```
In [20]: runfile('C:/Users/ADMIN/Downloads/2.py', wdir='C:/Users/ADMIN/Downloads')

Enter Size of first array:6

Element: 1

Element: 0

Element: 0

Element: 0

Element: 1

Element: 0
[1 0 0 0 1 0]
```

```
Enter Size of second array:6

Element: 0

Element: 0

Element: 1

Element: 1

Element: 0

Element: 1
[0 0 1 1 0 1]
False
```

```
In [21]: runfile('C:/Users/ADMIN/Downloads/2.py', wdir='C:/Users/ADMIN/Downloads')

Enter Size of first array:2

Element: 3

Element: 4
[3 4]

Enter Size of second array:2

Element: 3

Element: 4
[3 4]
True
```

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:

```
In [25]: runfile('C:/Users/ADMIN/Downloads/3.py', wdir='C:/Users/ADMIN/Downloads')
nan
True
False
nan
False
```

Question-4 **Convert the first character of each element in a series to uppercase?**

Output:

```
In [23]: runfile('C:/Users/ADMIN/Downloads/4.py', wdir='C:/Users/ADMIN/Downloads')
0               Amrita
1               School
2                   Of
3    Engineeringchennai
4               Campus
dtype: object
```

Question-5

Do any two Exercises using Numpy

1.addition of 2 numpy arrays

```
In [26]: runfile('C:/Users/ADMIN/Downloads/5(1).py', wdir='C:/Users/ADMIN/Downloads')
1st array :  [5 7 3]
2nd array :  [2 8 9]
added array :  [ 7 15 12]
```

2.Multiplying a matrix

```
In [31]: runfile('C:/Users/ADMIN/Downloads/5(2).py', wdir='C:/Users/ADMIN/Downloads')
1st array :  [[3 5 8]
 [4 7 2]]
2nd array :  [[5 2]
 [7 3]
 [8 6]]
multiplied array matrix :  [[114  69]
 [ 85  41]]
```