

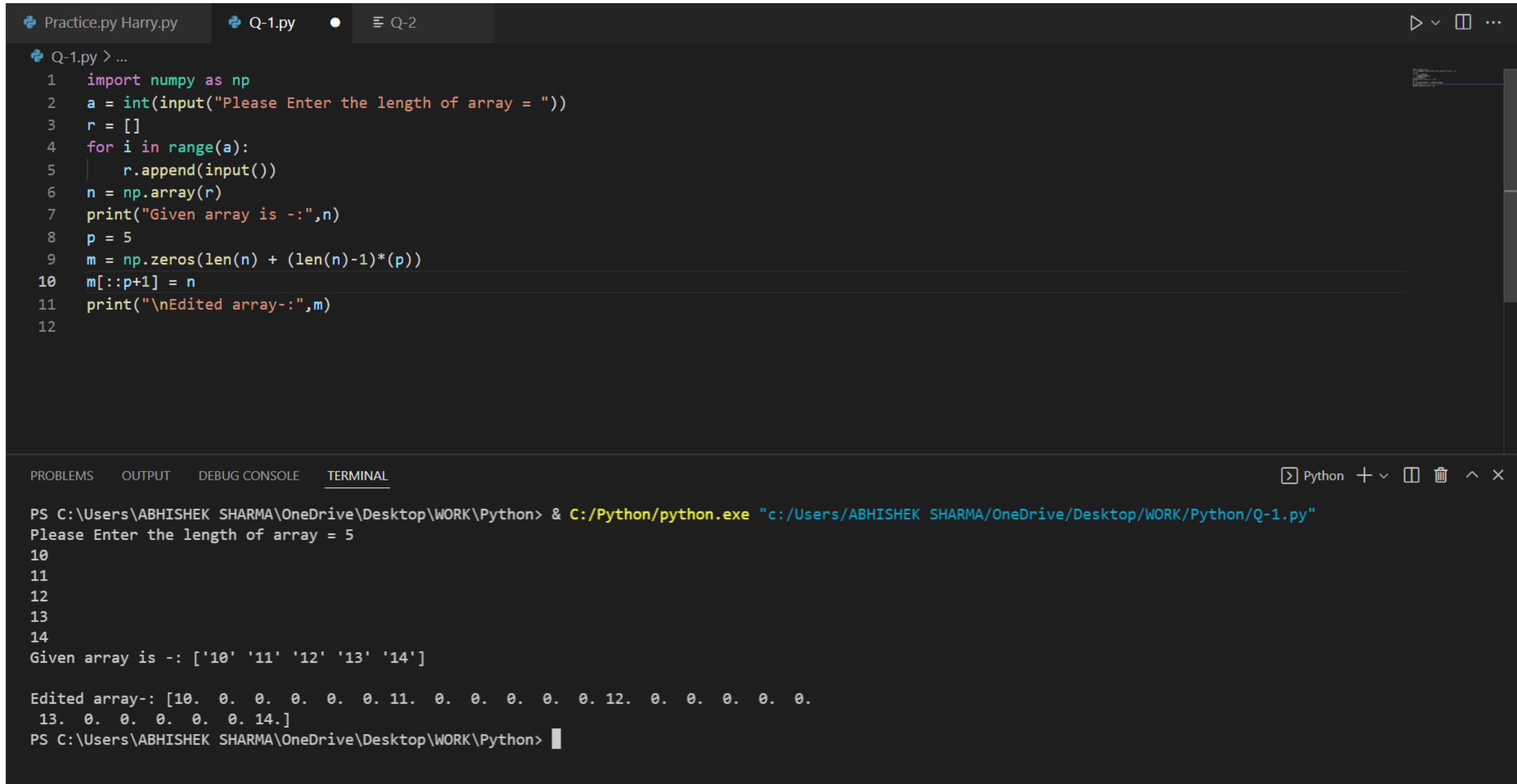
# **TASK-8**

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**Roll number - 01**

# Q-1



The image shows a code editor with a dark theme. At the top, there are three tabs: "Practice.py Harry.py", "Q-1.py", and "Q-2". The "Q-1.py" tab is active. Below the tabs, the code for "Q-1.py" is displayed. The code imports numpy as np, takes an input for the length of an array, creates an array, and then creates a new array with zeros and the original array concatenated. The output of the code is shown in a terminal window at the bottom.

```
Q-1.py > ...
1  import numpy as np
2  a = int(input("Please Enter the length of array = "))
3  r = []
4  for i in range(a):
5      r.append(input())
6  n = np.array(r)
7  print("Given array is -:",n)
8  p = 5
9  m = np.zeros(len(n) + (len(n)-1)*(p))
10 m[::p+1] = n
11 print("\nEdited array-:",m)
12
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Python + v [Icons]

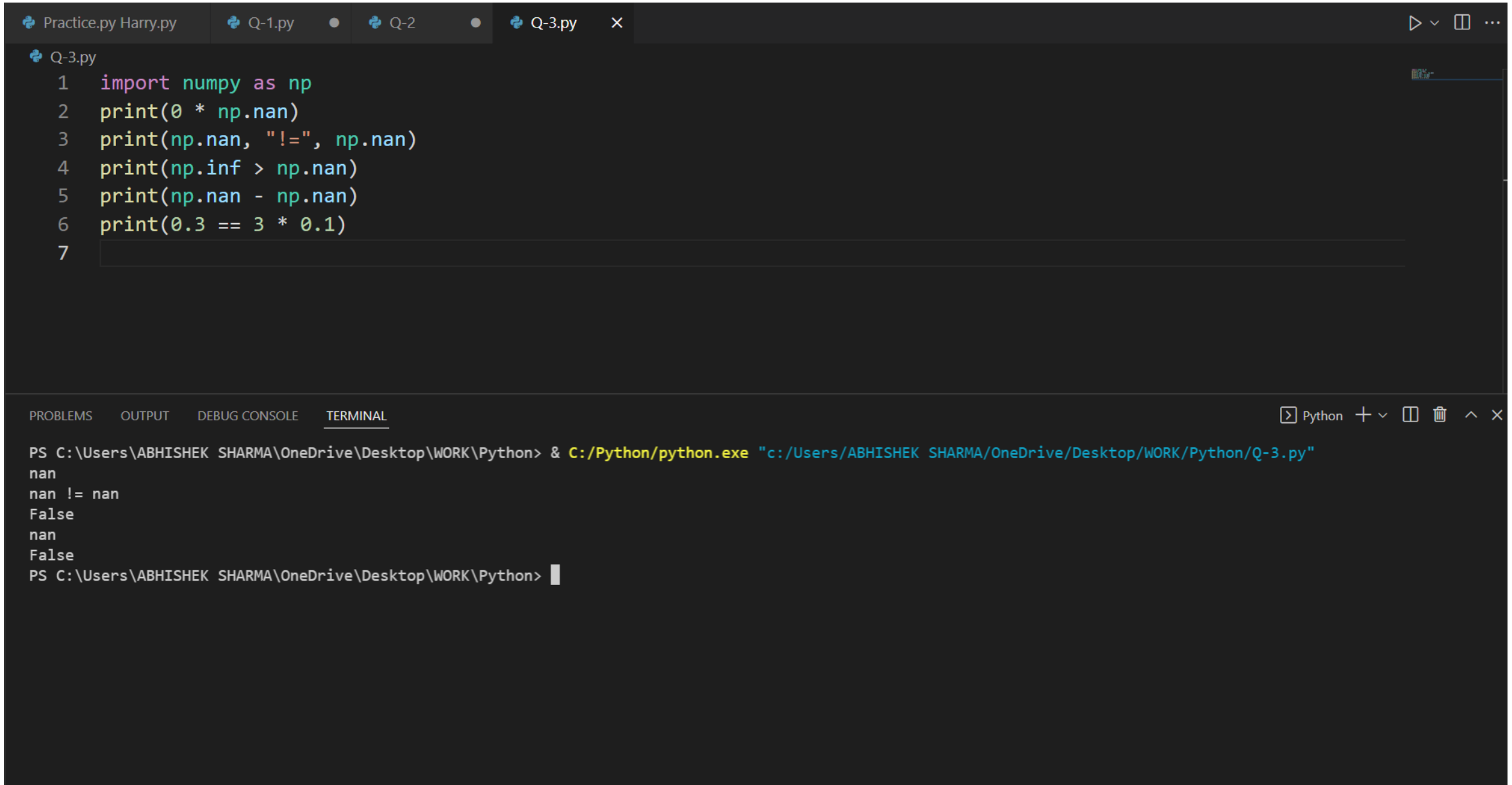
```
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python> & C:/Python/python.exe "c:/Users/ABHISHEK SHARMA/OneDrive/Desktop/WORK/Python/Q-1.py"
Please Enter the length of array = 5
10
11
12
13
14
Given array is -: ['10' '11' '12' '13' '14']

Edited array-: [10.  0.  0.  0.  0.  0. 11.  0.  0.  0.  0.  0. 12.  0.  0.  0.  0.  0.
13.  0.  0.  0.  0. 14.]
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python>
```

# Q-2

```
Practice.py Harry.py  Q-1.py  Q-2  ...  
Q-2 > ...  
1  import numpy as np  
2  a = int(input("Please Enter the length of 1st array = "))  
3  b = int(input("Please Enter the length of 2nd array = "))  
4  r_a = []  
5  r_b = []  
6  if a == b :  
7      print("Please give elements in 1st array = ")  
8      for i in range(a):  
9          r_a.append(input())  
10     print("Please give the elements in 2nd array = ")  
11     for i in range(b):  
12         r_b.append(input())  
13     l = len(r_a)  
14     r_aa = np.sort(r_a)  
15     r_bb = np.sort(r_b)  
16     print(r_aa,type(r_aa))  
17     print(r_bb,type(r_bb))  
18     print(np.array_equal(r_aa, r_bb))  
  
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  
  
Please Enter the length of 1st array = 5  
Please Enter the length of 2nd array = 5  
Please give elements in 1st array =  
1  
2  
3  
5  
9  
Please give the elements in 2nd array =  
1  
2  
3  
5  
9  
['1' '2' '3' '5' '9'] <class 'numpy.ndarray'>  
['1' '2' '3' '5' '9'] <class 'numpy.ndarray'>  
True
```

# Q-3



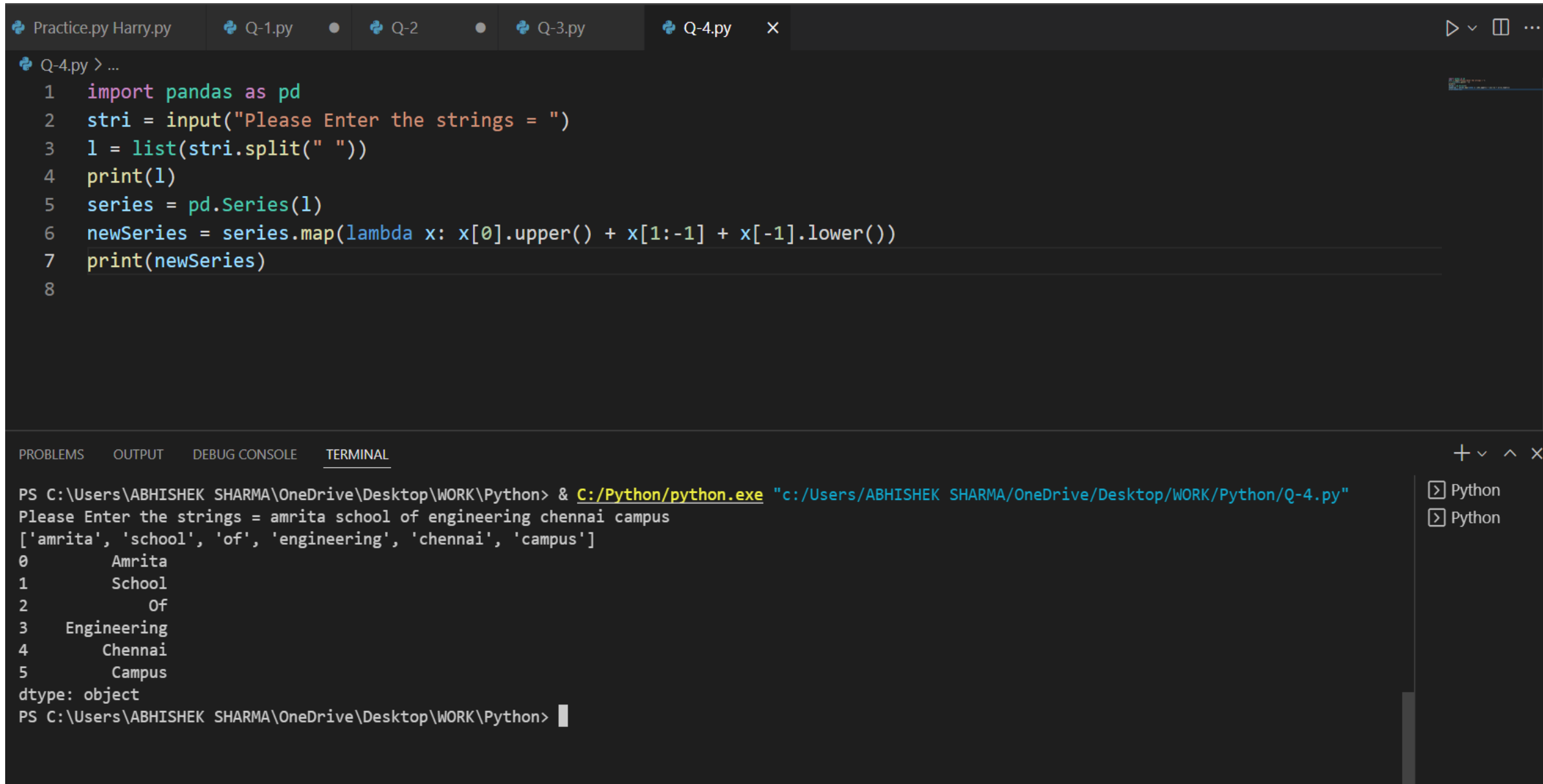
The image shows a Python IDE with a dark theme. The top panel contains several tabs: 'Practice.py Harry.py', 'Q-1.py', 'Q-2', and 'Q-3.py'. The 'Q-3.py' tab is active, displaying a Python script with seven lines of code. The code imports numpy as np and performs several comparisons involving NaN, infinity, and floating-point arithmetic. The bottom panel shows the 'TERMINAL' output, which displays the results of running the script: 'nan', 'nan != nan', 'False', 'nan', and 'False'. The terminal prompt indicates the script was executed from the directory 'C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python'.

```
Q-3.py
1 import numpy as np
2 print(0 * np.nan)
3 print(np.nan, "!=", np.nan)
4 print(np.inf > np.nan)
5 print(np.nan - np.nan)
6 print(0.3 == 3 * 0.1)
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Python + -

```
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python> & C:/Python/python.exe "c:/Users/ABHISHEK SHARMA/OneDrive/Desktop/WORK/Python/Q-3.py"
nan
nan != nan
False
nan
False
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python>
```

# Q-4



The screenshot shows a Python IDE with a dark theme. The top panel displays several open files: Practice.py, Harry.py, Q-1.py, Q-2, Q-3.py, and Q-4.py. The Q-4.py file is active, showing the following code:

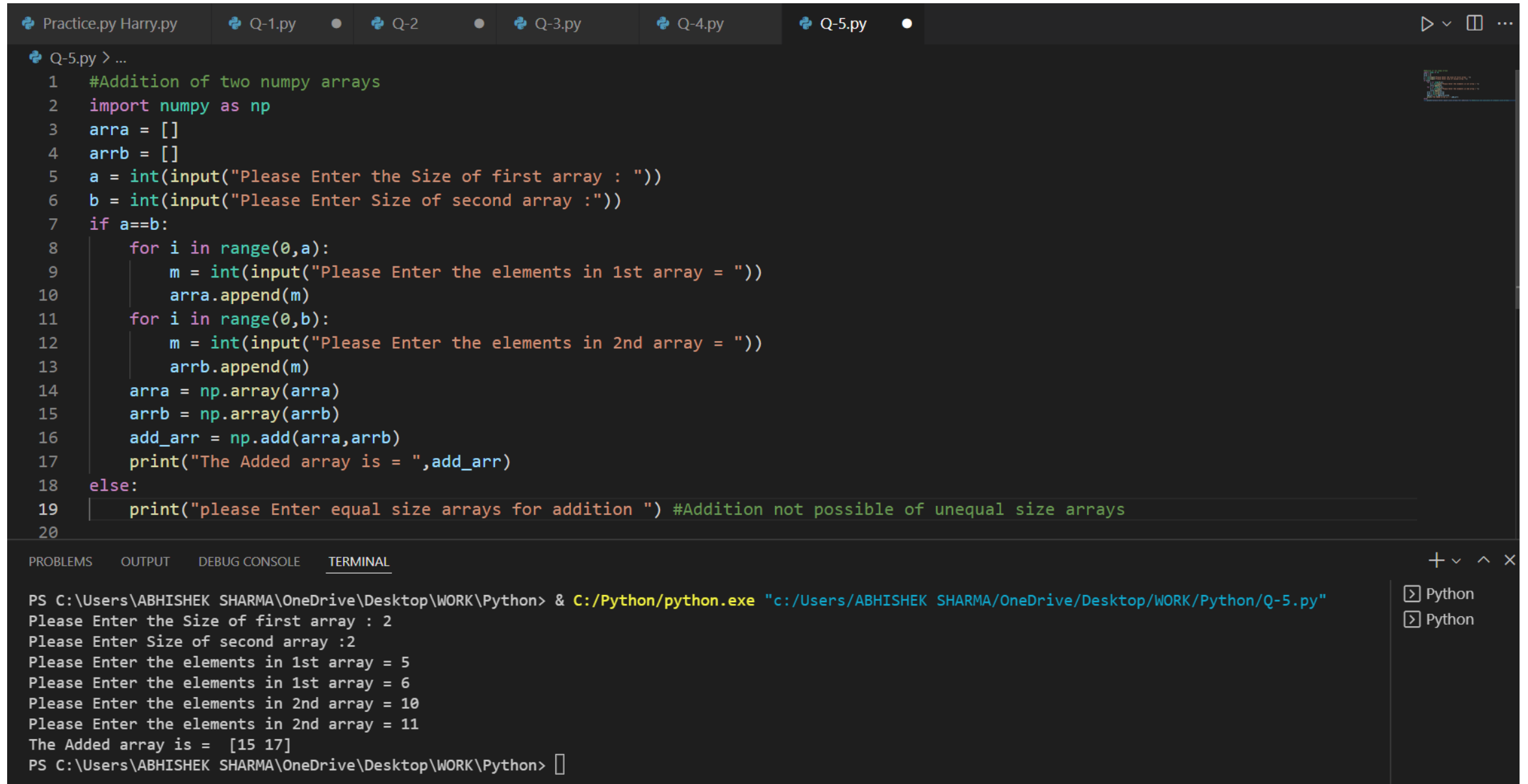
```
1 import pandas as pd
2 stri = input("Please Enter the strings = ")
3 l = list(stri.split(" "))
4 print(l)
5 series = pd.Series(l)
6 newSeries = series.map(lambda x: x[0].upper() + x[1:-1] + x[-1].lower())
7 print(newSeries)
8
```

The bottom panel shows the terminal output for the execution of Q-4.py. The command executed is `PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python> & C:/Python/python.exe "c:/Users/ABHISHEK SHARMA/OneDrive/Desktop/WORK/Python/Q-4.py"`. The output shows the input string "amrita school of engineering chennai campus" being split into a list of words, which are then processed by the `map` function to create a new series where each word is capitalized (first letter uppercase, rest lowercase).

```
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python> & C:/Python/python.exe "c:/Users/ABHISHEK SHARMA/OneDrive/Desktop/WORK/Python/Q-4.py"
Please Enter the strings = amrita school of engineering chennai campus
['amrita', 'school', 'of', 'engineering', 'chennai', 'campus']
0      Amrita
1      School
2         Of
3  Engineering
4      Chennai
5      Campus
dtype: object
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python>
```

On the right side of the terminal panel, there are two tabs labeled "Python".

# Q-5(a)



```
Practice.py Harry.py Q-1.py Q-2 Q-3.py Q-4.py Q-5.py
Q-5.py > ...
1 #Addition of two numpy arrays
2 import numpy as np
3 arra = []
4 arrb = []
5 a = int(input("Please Enter the Size of first array : "))
6 b = int(input("Please Enter Size of second array :"))
7 if a==b:
8     for i in range(0,a):
9         m = int(input("Please Enter the elements in 1st array = "))
10        arra.append(m)
11    for i in range(0,b):
12        m = int(input("Please Enter the elements in 2nd array = "))
13        arrb.append(m)
14    arra = np.array(arrb)
15    arrb = np.array(arrb)
16    add_arr = np.add(arrb,arra)
17    print("The Added array is = ",add_arr)
18 else:
19     print("please Enter equal size arrays for addition ") #Addition not possible of unequal size arrays
20
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python> & C:/Python/python.exe "c:/Users/ABHISHEK SHARMA/OneDrive/Desktop/WORK/Python/Q-5.py"
Please Enter the Size of first array : 2
Please Enter Size of second array :2
Please Enter the elements in 1st array = 5
Please Enter the elements in 1st array = 6
Please Enter the elements in 2nd array = 10
Please Enter the elements in 2nd array = 11
The Added array is = [15 17]
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python>
```

Python

Python

# Q-5(b)



The image shows a Python IDE with a dark theme. The top bar contains several open files: Practice.py, Harry.py, Q-1.py, Q-2, Q-3.py, Q-4.py, Q-5.py, and Q-5b.py. The active file is Q-5b.py, which contains the following Python code:

```
1 # Array datatype conversion
2 import numpy as np
3 array = []
4 x = int(input("Please Enter Size of first array = "))
5 for i in range(0,x):
6     a = int(input("Please Enter the elements of first array = "))
7     array.append(a)
8 array = np.array(array)
9 print("Data type of an array is :", array.dtype)
10 array = array.astype('float64')
11 print(array)
12 print(array.dtype)
```

Below the code editor is a terminal window with tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The terminal shows the execution output:

```
Please Enter Size of first array = 5
Please Enter the elements of first array = 1
Please Enter the elements of first array = 2
Please Enter the elements of first array = 3
Please Enter the elements of first array = 4
Please Enter the elements of first array = 5
Data type of an array is : int32
[1. 2. 3. 4. 5.]
float64
PS C:\Users\ABHISHEK SHARMA\OneDrive\Desktop\WORK\Python>
```

On the right side of the terminal, there are two Python icons with expand/collapse symbols.