

COGNIZANCE



TASK-8



BY
ARCHANAA.N
AIE A

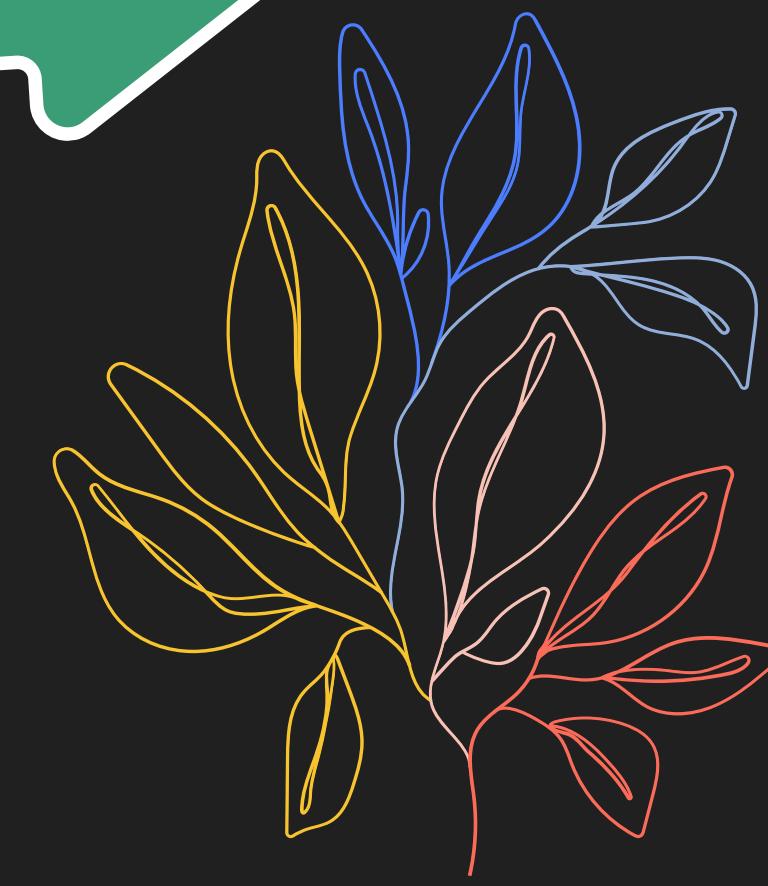


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Convert the first character of each element in a series to uppercase?

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Question-5
Do any two Exercises using Numpy

- 1.addition of 2 numpy arrays
- 2.Multiplying a matrix

QN-1 CODE

```
"""
Created on Wed Mar  9 15:42:46 2022

@author: ARCHANAA N
"""

# Question-1

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

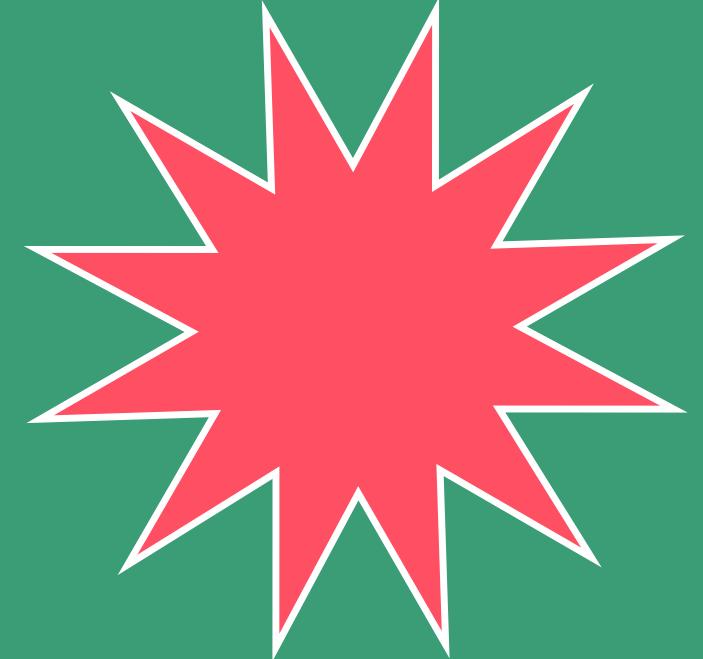
import numpy as np
a = int(input("Enter the first number:"))
b = int(input("Enter the first number:"))
c = b + 1
nums = np.arange(a,c)
print("Original array:")
print(nums)
w = 5
new_nums = np.zeros(len(nums) + (len(nums)-1)*(w))
new_nums[::w+1] = nums
print("\nNew array:")
print(new_nums)
```

YAAAS



CONSOLE

WINDOW



```
In [28]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/untitled7.py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')

Enter the first number:65

Enter the first number:89
Original array:
[65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
 89]

New array:
[65.  0.  0.  0.  0.  66.  0.  0.  0.  0.  0.  67.  0.  0.  0.  0.  0.  0.
 68.  0.  0.  0.  0.  69.  0.  0.  0.  0.  0.  70.  0.  0.  0.  0.  0.  0.
 71.  0.  0.  0.  0.  72.  0.  0.  0.  0.  0.  73.  0.  0.  0.  0.  0.  0.
 74.  0.  0.  0.  0.  75.  0.  0.  0.  0.  0.  76.  0.  0.  0.  0.  0.  0.
 77.  0.  0.  0.  0.  78.  0.  0.  0.  0.  0.  79.  0.  0.  0.  0.  0.  0.
 80.  0.  0.  0.  0.  81.  0.  0.  0.  0.  0.  82.  0.  0.  0.  0.  0.  0.
 83.  0.  0.  0.  0.  84.  0.  0.  0.  0.  0.  85.  0.  0.  0.  0.  0.  0.
 86.  0.  0.  0.  0.  87.  0.  0.  0.  0.  0.  88.  0.  0.  0.  0.  0.  0.
 89.]
```

QN-2

CODE

```
"""
Created on Tue Mar  8 23:30:06 2022

@author: ARCHANAA N
"""

# Question-2

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

import numpy as np
print()
print("Enter no. of elements in array 1:")
n = int(input())
print()
print("Enter inputs for array 1:")
arr1 = input()
a = list(map(int,arr1.split(' ')))
print()
print("First array:")
print()
print(a)
print()
print("Enter no. of elements in array 2:")
m = int(input())
print()
print("Enter inputs for array 2:")
arr2 = input()
b = list(map(int,arr2.split(' ')))
print()
print("Second array:")
print()
print(b)
print()
print("Check both the randomly created arrays whether equal or not!")
print("If equal, print true and if not, print false")
print()
array_equal = np.allclose(a, b)
print(array_equal)
```



CONSOLE

IF TRUE

```
In [33]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/Qn-2.(Code).py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')
```

```
Enter no. of elements in array 1:
```

```
5
```

```
Enter inputs for array 1:
```

```
5 8 9 5 4
```

```
First array:
```

```
[5, 8, 9, 5, 4]
```

```
Enter no. of elements in array 2:
```

```
5
```

```
Enter inputs for array 2:
```

```
5 8 9 5 4
```

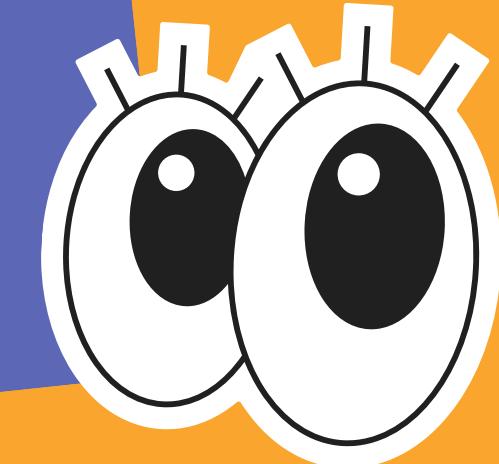
```
Second array:
```

```
[5, 8, 9, 5, 4]
```

```
Check both the user given arrays whether they are equal or not!  
If equal, print true and if not, print false
```

```
True
```

WINDOW



IF FALSE

```
In [34]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/Qn-2.(Code).py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')
```

```
Enter no. of elements in array 1:
```

```
5
```

```
Enter inputs for array 1:
```

```
1 4 5 6 2
```

```
First array:
```

```
[1, 4, 5, 6, 2]
```

```
Enter no. of elements in array 2:
```

```
5
```

```
Enter inputs for array 2:
```

```
6 5 4 7 2
```

```
Second array:
```

```
[6, 5, 4, 7, 2]
```

```
Check both the user given arrays whether they are equal or not!  
If equal, print true and if not, print false
```

```
False
```



QN-3

CODE



Created on Wed Mar 9 00:13:06 2022

@author: ARCHANAA N

"""

Question-3

What is the result of the following expression ?

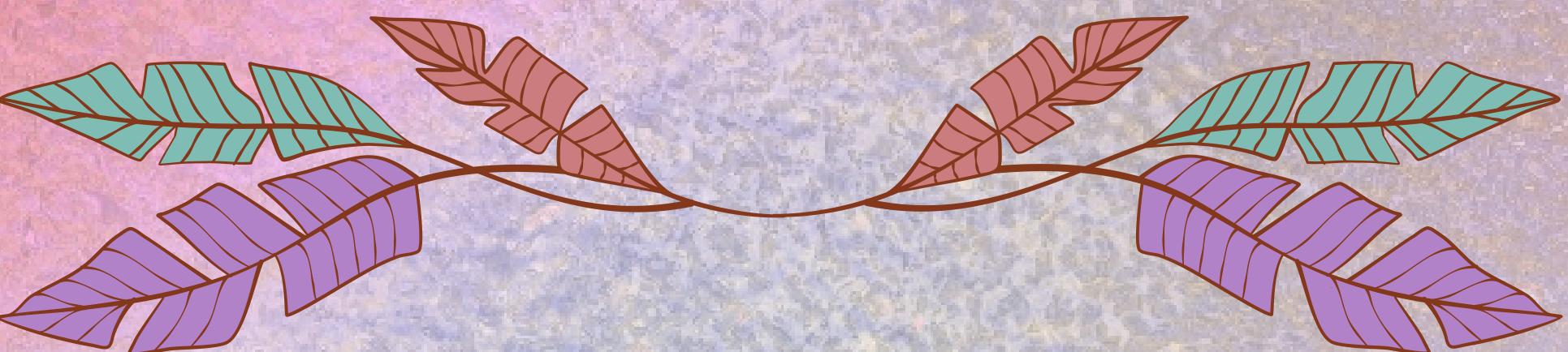
```
import numpy as np  
print(0 * np.nan)  
print(np.nan != np.nan)  
print(np.inf > np.nan)  
print(np.nan - np.nan)  
print(0.3 == 3 * 0.1)
```



QN-3

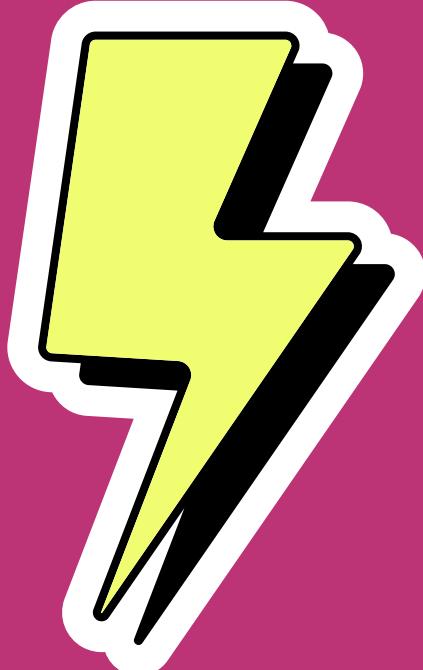
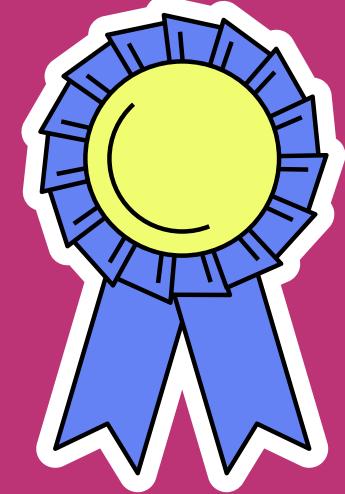
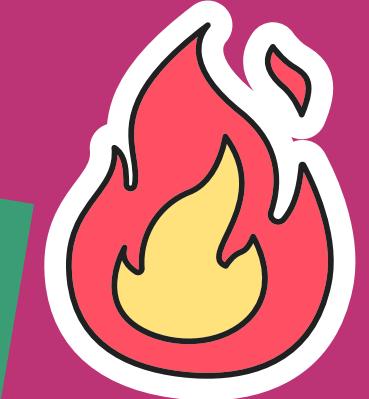
CONSOLE

```
In [35]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/Qn-3.py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')
nan
True
False
nan
False
```



QN-4

CODE



CONSOLE

WINDOW

```
"""
Created on Wed Mar  9 00:14:28 2022

@author: ARCHANAA N
"""

# Question-4

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

import pandas as pd
ser = pd.Series(['amrita', 'school', 'of', 'engineering', 'chennai' , 'campus'])
q = ""
s = ser.str.title()
i = 0
while i < len(ser):
    q = q + s[i]
    q = q + " "
    i = i + 1
print(q)
```

In [36]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/Qn-4.py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')

Amrita School Of Engineering Chennai Campus



QN-5

1(CODE)

```
"""
Created on Tue Mar  8 23:29:10 2022

@author: ARCHANAA N
"""

# Question-5

# Do any two Exercises using Numpy
# addition of 2 numpy arrays
import numpy as np

z = np.array([5, 4, 3])
o = np.array([3, 4, 5])

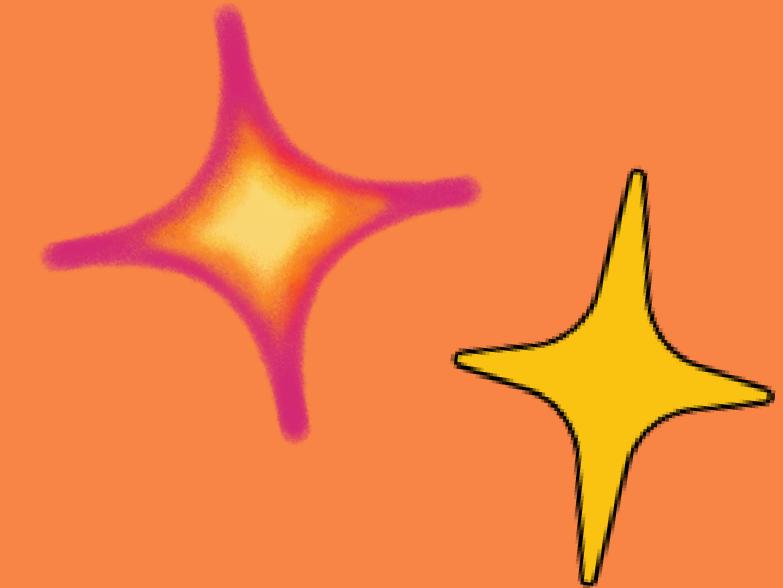
print ("1st array : ", z)
print ("2nd array : ", o)

a = np.add(z,o)
print ("The added numpy array : ", a)
```

QN-5.1

CONSOLE

```
In [38]: runfile('C:/Users/ARCHANAA N/Desktop/
ARCHANAA N/Desktop/Task-8')
1st array : [5 4 3]
2nd array : [3 4 5]
The added numpy array : [8 8 8]
```



QN-5.2 CODE

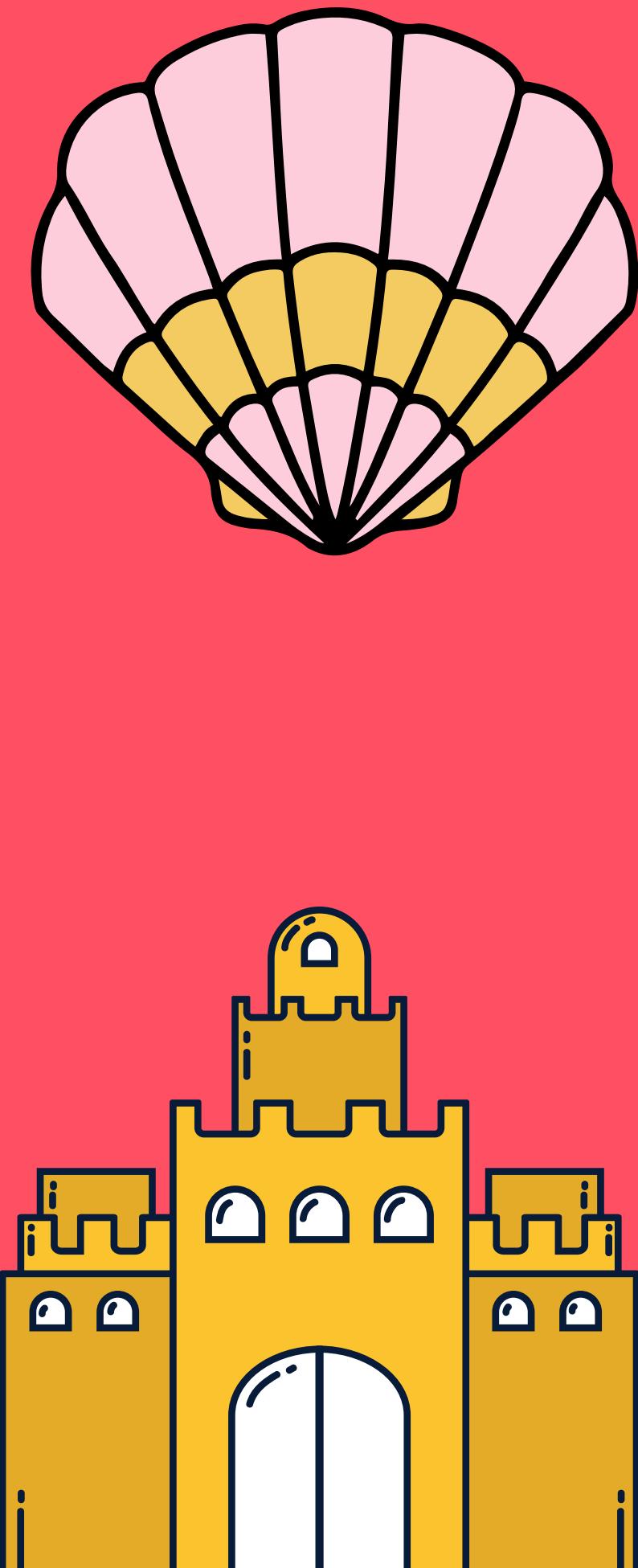
```
"""
Created on Tue Mar  8 23:29:35 2022

@author: ARCHANAA N
"""

# Question-5

# Do any two Exercises using Numpy
# Multiplying a matrix

import numpy as np
A = np.array ([[2,2], [3,3], [5,5]])
B = np.array ([[1,2,3], [3,4,5]])
print(np.dot (A, B))
```



QN-5.2

CONSOLE



```
In [39]: runfile('C:/Users/ARCHANAA N/Desktop/Task-8/Qn-5.2.py', wdir='C:/Users/ARCHANAA N/Desktop/Task-8')
[[ 8 12 16]
 [12 18 24]
 [20 30 40]]
```



**THANK
YOU
FOR
YOUR TIME**

