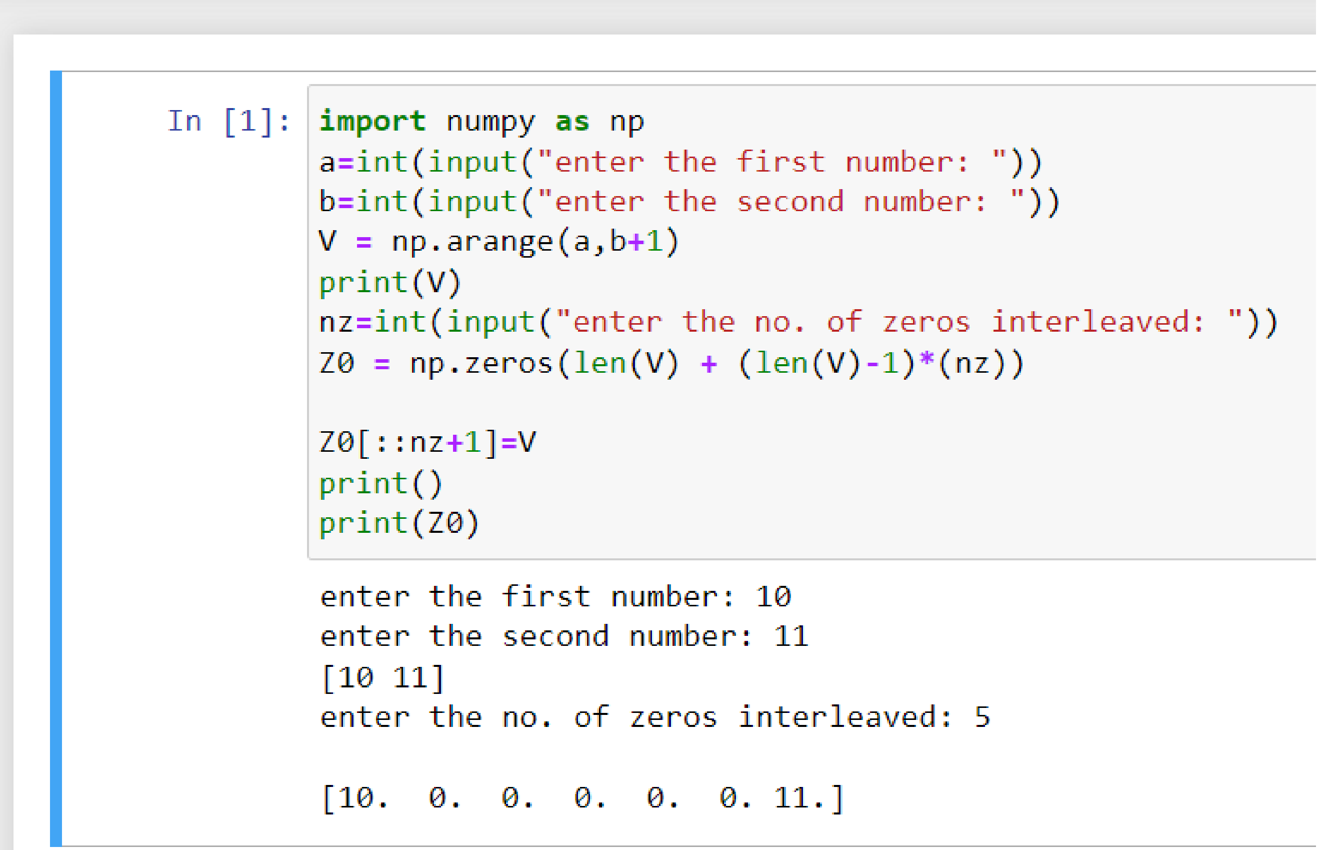
REGULAVALASA SATYA S SRINIVAS-21039
COGNIZANCE
TASK-8

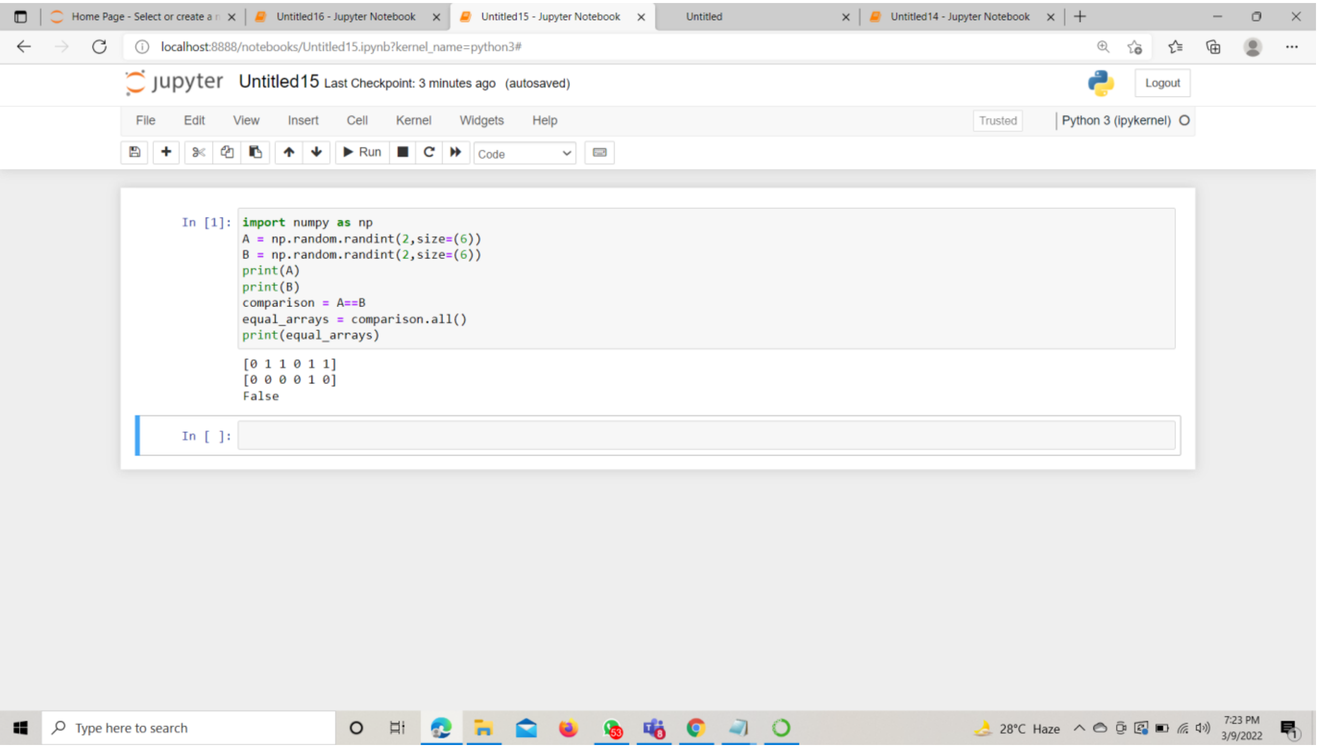
QUESTION1



```
import numpy as np
a=int(input("enter the first number: "))
b=int(input("enter the second number: "))
V = np.arange(a,b+1)
print(V)
nz=int(input("enter the no. of zeros interleaved: "))
Z0 = np.zeros(len(V) + (len(V)-1)*(nz))

Z0[::nz+1]=V
print()
print(Z0)
```

```
enter the first number: 10
enter the second number: 11
[10 11]
enter the no. of zeros interleaved: 5

[10.  0.  0.  0.  0.  0. 11.]
```

QUESTION2


Home Page - Select or create a n
Untitled16 - Jupyter Notebook
Untitled15 - Jupyter Notebook
Untitled
Untitled14 - Jupyter Notebook
localhost:8888/notebooks/Untitled15.ipynb?kernel_name=python3#
jupyter
Untitled15 Last Checkpoint: 3 minutes ago (autosaved)
Logout
File
Edit
View
Insert
Cell
Kernel
Widgets
Help
Trusted
Python 3 (ipykernel)
Run
Code
Type here to search
28°C Haze
7:23 PM
3/9/2022

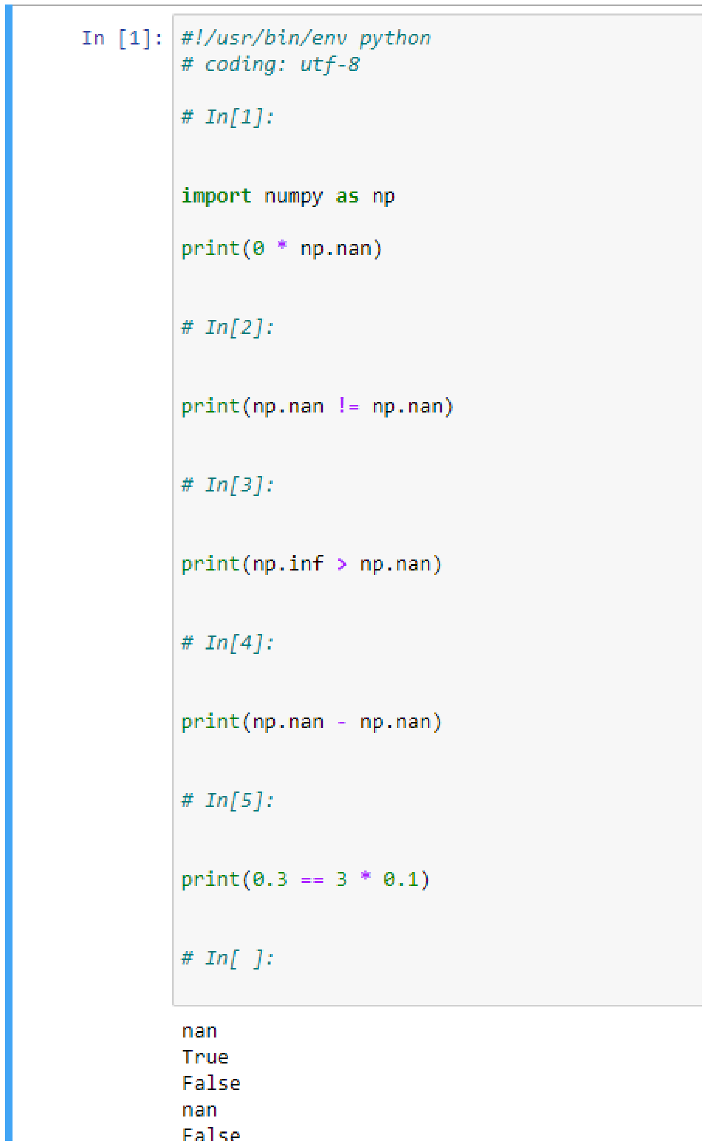
In [1]:

```
import numpy as np
A = np.random.randint(2,size=(6))
B = np.random.randint(2,size=(6))
print(A)
print(B)
comparison = A==B
equal_arrays = comparison.all()
print(equal_arrays)
```

```
[0 1 1 0 1 1]
[0 0 0 0 1 0]
False
```

In [ ]:

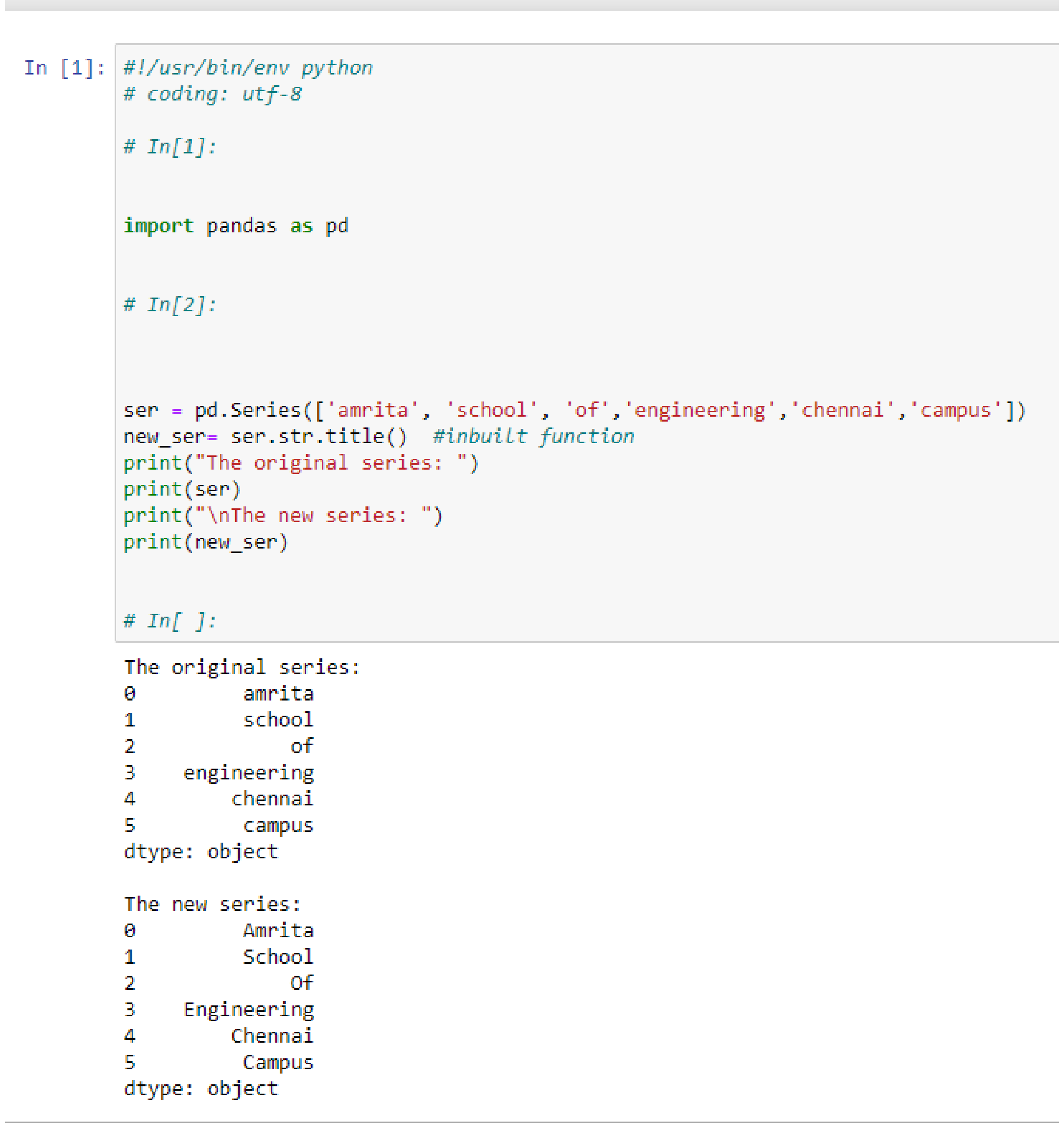
QUESTION3



```
#!/usr/bin/env python
# coding: utf-8

# In[1]:


import numpy as np

print(0 * np.nan)


# In[2]:


print(np.nan != np.nan)


# In[3]:


print(np.inf > np.nan)


# In[4]:


print(np.nan - np.nan)


# In[5]:


print(0.3 == 3 * 0.1)


# In[ ]:
```

```
nan
True
False
nan
False
```

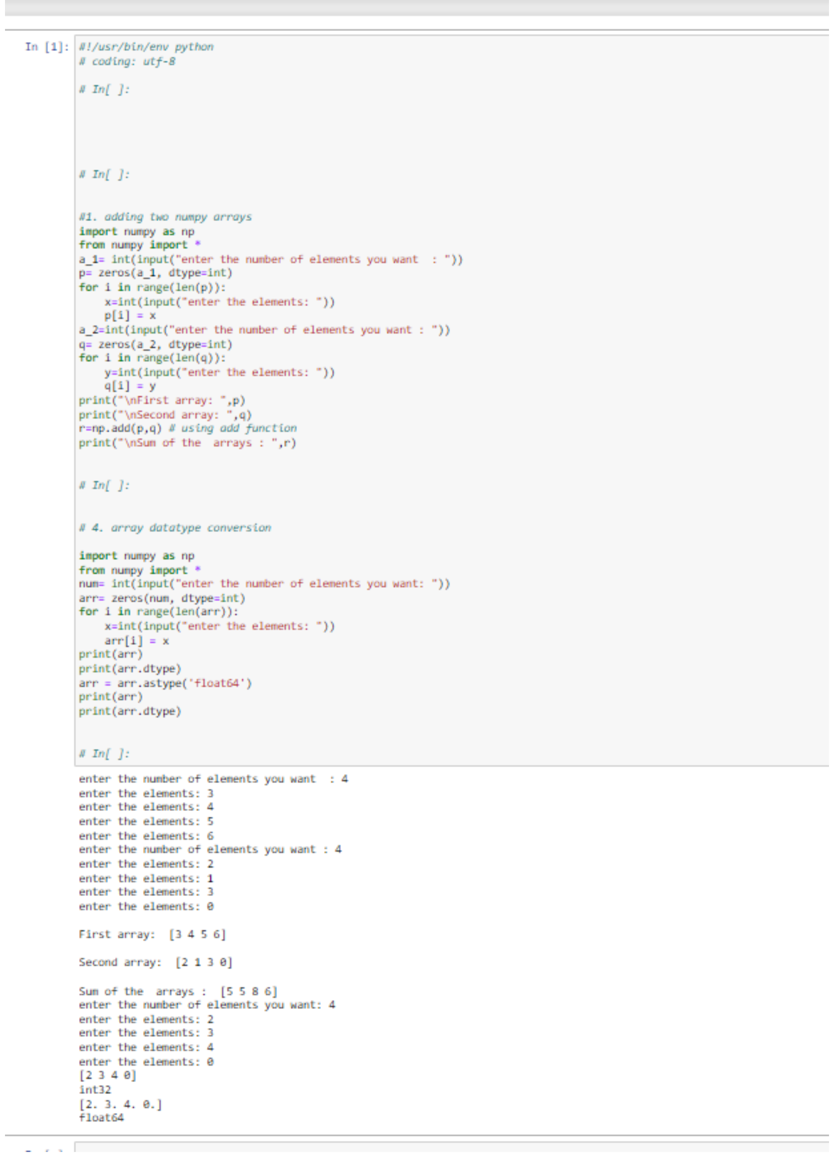
QUESTION4



```
In [1]: #!/usr/bin/env python
        # coding: utf-8

        # In[1]:


        import pandas as pd


        # In[2]:



        ser = pd.Series(['amrita', 'school', 'of','engineering','chennai','campus'])
        new_ser= ser.str.title()  #inbuilt function
        print("The original series: ")
        print(ser)
        print("\nThe new series: ")
        print(new_ser)


        # In[ ]:
```

```
The original series: 
0         amrita
1         school
2             of
3    engineering
4        chennai
5         campus
dtype: object

The new series: 
0         Amrita
1         School
2             Of
3    Engineering
4        Chennai
5         Campus
dtype: object
```

QUESTION5



```
In [1]: #!/usr/bin/env python
        # coding: utf-8

        # In[ ]:




        # In[ ]:


        #1. adding two numpy arrays
        import numpy as np
        from numpy import *
        a_1= int(input("enter the number of elements you want  : "))
        p= zeros(a_1, dtype=int)
        for i in range(len(p)):
            x=int(input("enter the elements: "))
            p[i] = x
        a_2=int(input("enter the number of elements you want : "))
        q= zeros(a_2, dtype=int)
        for i in range(len(q)):
            y=int(input("enter the elements: "))
            q[i] = y
        print("\nFirst array: ",p)
        print("\nSecond array: ",q)
        r=np.add(p,q) # using add function
        print("\nSum of the  arrays : ",r)


        # In[ ]:


        # 4. array datatype conversion

        import numpy as np
        from numpy import *
        num= int(input("enter the number of elements you want: "))
        arr= zeros(num, dtype=int)
        for i in range(len(arr)):
            x=int(input("enter the elements: "))
            arr[i] = x
        print(arr)
        print(arr.dtype)
        arr = arr.astype('float64')
        print(arr)
        print(arr.dtype)


        # In[ ]:
```

```
enter the number of elements you want  : 4
enter the elements: 3
enter the elements: 4
enter the elements: 5
enter the elements: 6
enter the number of elements you want : 4
enter the elements: 2
enter the elements: 1
enter the elements: 3
enter the elements: 0

First array:  [3 4 5 6]

Second array:  [2 1 3 0]

Sum of the  arrays :  [5 5 8 6]
enter the number of elements you want: 4
enter the elements: 2
enter the elements: 3
enter the elements: 4
enter the elements: 0
[2 3 4 0]
int32
[2. 3. 4. 0.]
float64
```

THANKYOU