COGNIZANCE

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QUESTION 1

```python
import numpy as np
a = np.array([10,11,12,13,14])
print(a)
nz = 5
Z = np.zeros(len(a) + (len(a)-1)*(nz))
Z[::nz+1] = a
print(np.floor(Z))
```

```
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py
[10 11 12 13 14]
[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.]

Process finished with exit code 0
```

QUESTION 2

```python
import numpy as np
l1 = []
n1 = int(input("size of the list : "))
for i in range(n1):
    l1.append(int(input("enter the first array : ")))
l2 = []
for i in range(n1):
    l2.append(int(input("enter the second array : ")))
y = np.array(l1)
x = np.array(l2)
a = np.allclose(x,y)
print("first array :")
print(l1)
print("second array :")
print(l2)
print(a)
```

```
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py
size of the list : 1
enter the first array : 10001
enter the second array : 2002
first array :
[10001]
second array :
[2002]
False

Process finished with exit code 0
```

QUESTION 3

```python
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)
```

```
E:\PERSONAL\Projects\okdsn\venv\Scripts\python.exe E:/PERSONAL/Projects/okdsn/main.py
nan
True
False
nan
False
```

QUESTIONS 4

```python
import pandas as pd
result=''
length=int(input("Enter The Length Of The Array:"))
statement=[input("Enter The Element:") for i in range(length)]
s_statement=pd.Series(statement)
for i in range(len(statement)):
    result+=(" "+s_statement[i])
print(result.title())
if length==statement:
    print("True")
```

if length==statement

```
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py
Enter The Length Of The Array:3
Enter The Element:amrita
Enter The Element:vishwa
Enter The Element:vidhyapeetam
 Amrita Vishwa Vidhyapeetam

Process finished with exit code 0
```

QUESTION 5 (1)

```python
import numpy as np
p = ([1, 2, 3],[3, 4, 8],[2, 3, 120])
q = ([1, 1, 6],[3, 4, 7],[6,9,4])
r = np.dot(p,q)
print(r)
```

main ×

```
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py
[[ 25  36  32]
 [ 63  91  78]
 [380 509 864]]

Process finished with exit code 0
```

QUESTION 5 (2))

```python
import numpy as np
q = np.identity(3)
print("\nMatrix a : \n", q)
```

main ×

```
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py

Matrix a :
 [[1. 0. 0.]
 [0. 1. 0.]
 [0. 0. 1.]]

Process finished with exit code 0
```