COGNIZANCE

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QUESTION 1

```
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))
```

```
main
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
```

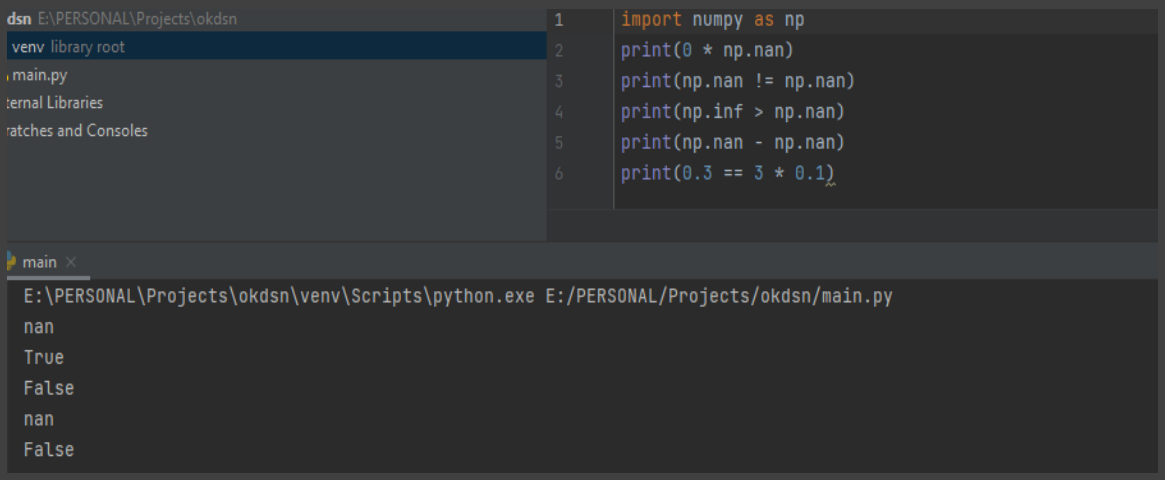
QUESTION 2

```
main.py
1  import numpy as np
2  a=input("Enter The Array :").split()
3  a=np.array(list(map(int,a)))
4  b=input("Enter The Array :").split()
5  b=np.array(list(map(int,b)))
6  comparison = (a == b)
7  Condition= comparison.all()
8  if(Condition is True):
9      print(True)
10 else:
11     print(False)
```

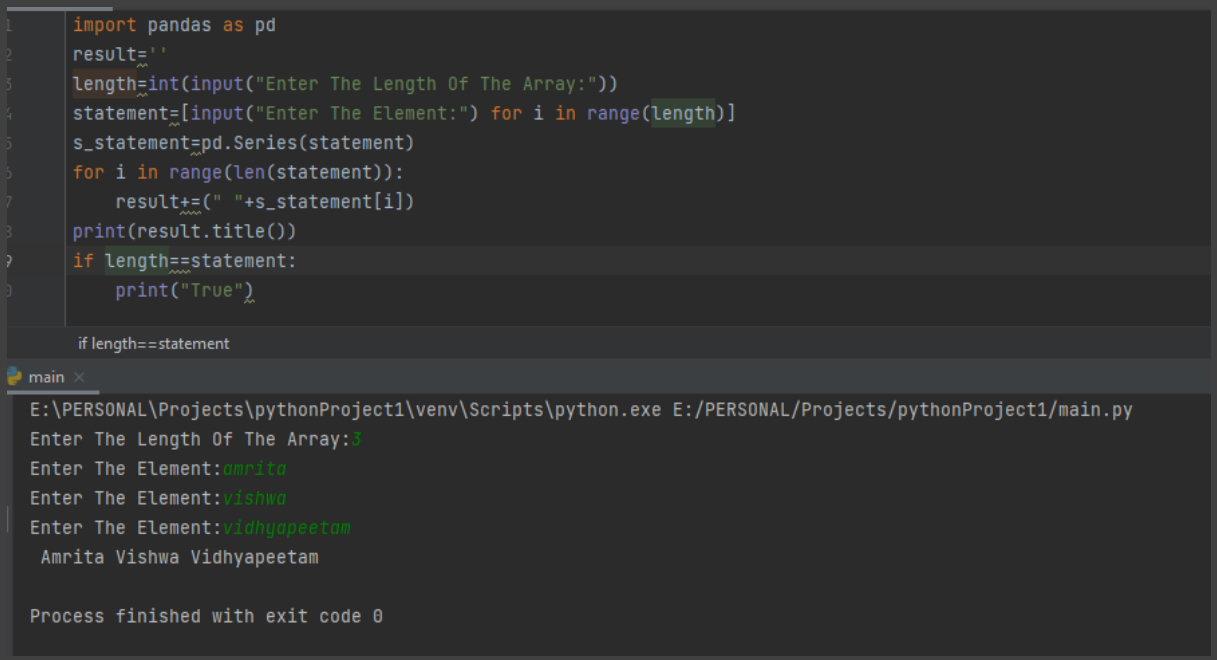
```
main
E:\PERSONAL\Projects\pythonProject1\venv\Scripts\python.exe E:/PERSONAL/Projects/pythonProject1/main.py
Enter The Array :1 0 0 0 1
Enter The Array :1 0 0 0 2
False

Process finished with exit code 0
```

QUESTION 3



QUESTIONS 4



QUESTION 5 (1)

```
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)

```
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
```