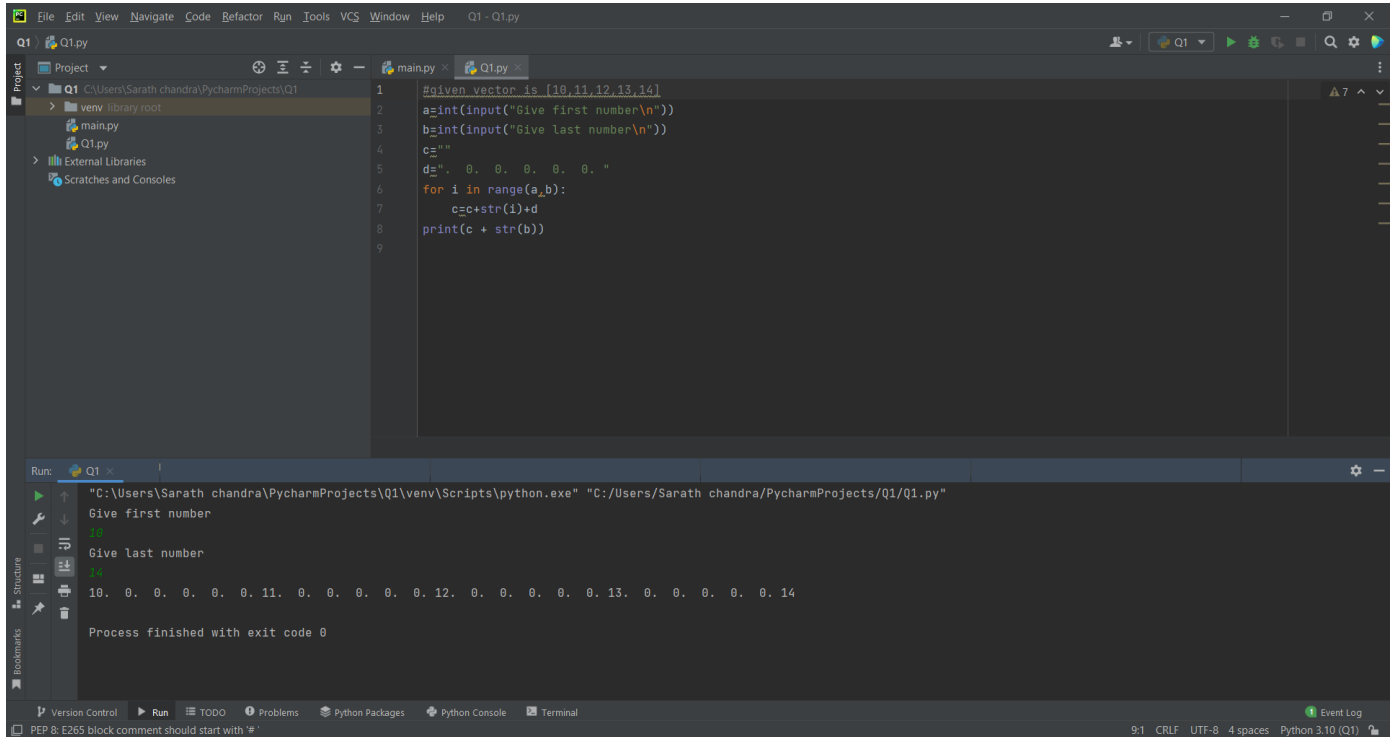


# TASK\_8 - COGNIZANCE

## Q-1



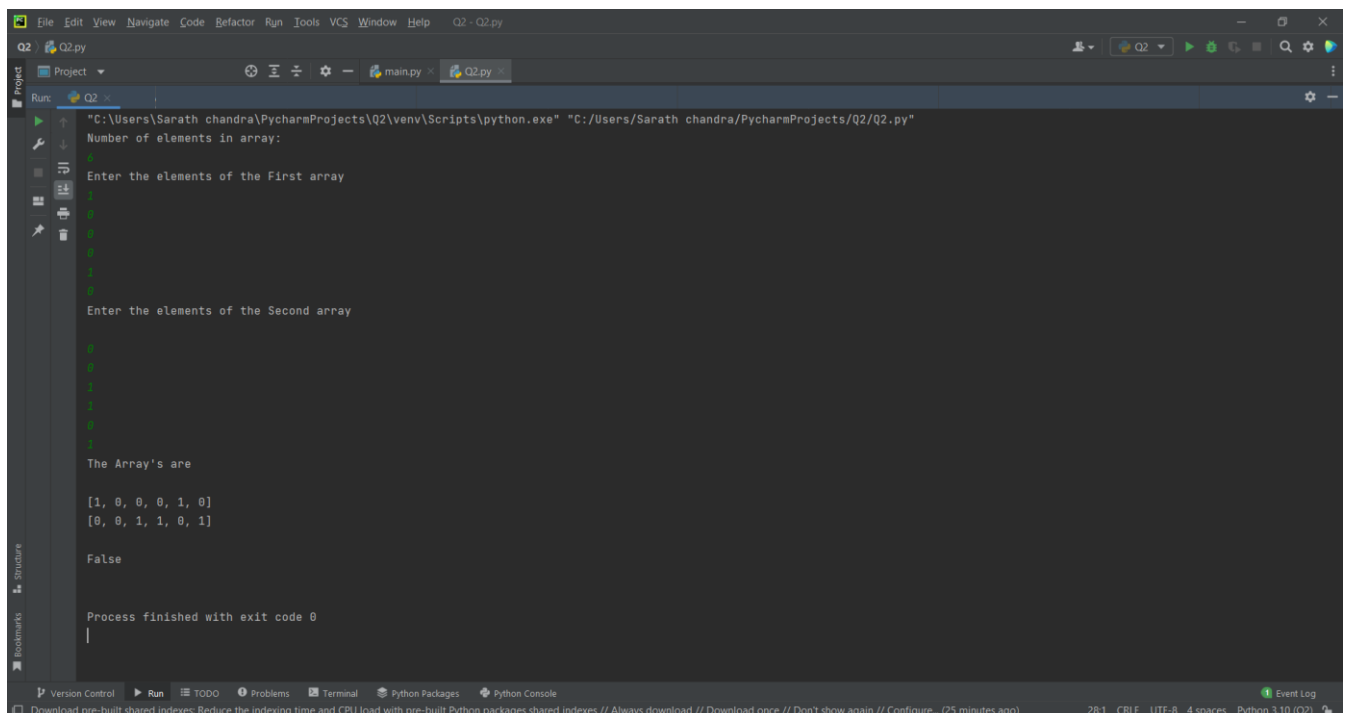
The screenshot shows the PyCharm IDE with a project named 'Q1'. The main file 'Q1.py' contains the following Python code:

```
1 #given vector is [10,11,12,13,14]
2 a=int(input("Give first number\n"))
3 b=int(input("Give last number\n"))
4 c=""
5 d=" 0. 0. 0. 0. 0. "
6 for i in range(a,b):
7     c=c+str(i)+d
8 print(c + str(b))
9
```

The Run console shows the execution of the script. The output is:

```
"C:\Users\Sarath chandra\PycharmProjects\Q1\venv\Scripts\python.exe" "C:/Users/Sarath chandra/PycharmProjects/Q1/Q1.py"
Give first number
10
Give last number
14
10. 0. 0. 0. 0. 0. 11. 0. 0. 0. 0. 0. 12. 0. 0. 0. 0. 0. 13. 0. 0. 0. 0. 14
Process finished with exit code 0
```

## Q-2



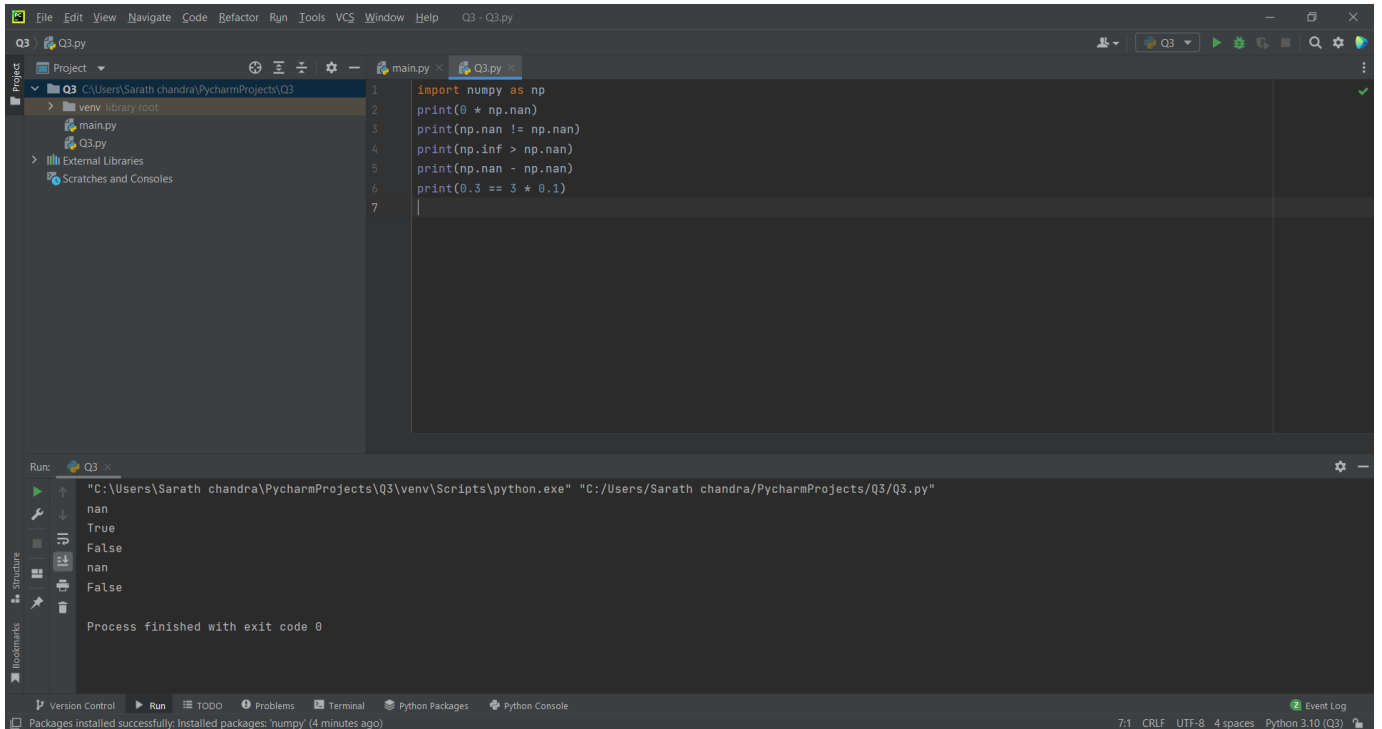
The screenshot shows the PyCharm IDE with a project named 'Q2'. The main file 'Q2.py' contains the following Python code:

```
1 #given vector is [10,11,12,13,14]
2 a=int(input("Give first number\n"))
3 b=int(input("Give last number\n"))
4 c=""
5 d=" 0. 0. 0. 0. 0. "
6 for i in range(a,b):
7     c=c+str(i)+d
8 print(c + str(b))
9
```

The Run console shows the execution of the script. The output is:

```
"C:\Users\Sarath chandra\PycharmProjects\Q2\venv\Scripts\python.exe" "C:/Users/Sarath chandra/PycharmProjects/Q2/Q2.py"
Number of elements in array:
Enter the elements of the First array
1
0
0
0
1
0
Enter the elements of the Second array
0
0
1
1
0
1
The Array's are
[1, 0, 0, 0, 1, 0]
[0, 0, 1, 1, 0, 1]
False
Process finished with exit code 0
```

# Q-3



The screenshot shows the PyCharm IDE interface for a project named 'Q3'. The main editor window displays the file 'Q3.py' with the following Python code:

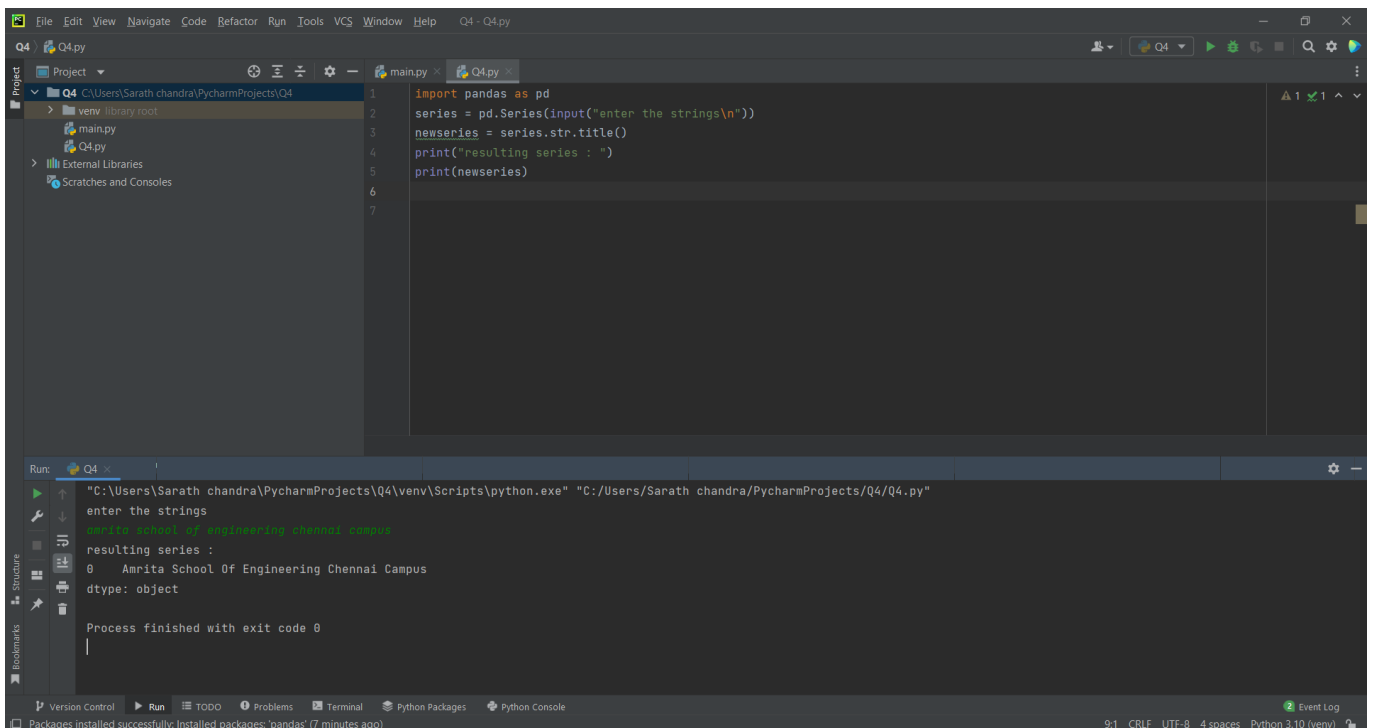
```
1 import numpy as np
2 print(0 * np.nan)
3 print(np.nan != np.nan)
4 print(np.inf > np.nan)
5 print(np.nan - np.nan)
6 print(0.3 == 3 * 0.1)
7
```

The Run console at the bottom shows the execution output:

```
nan
True
False
nan
False
Process finished with exit code 0
```

The status bar at the bottom indicates that the packages installed successfully, including 'numpy' (4 minutes ago).

# Q-4



The screenshot shows the PyCharm IDE interface for a project named 'Q4'. The main editor window displays the file 'Q4.py' with the following Python code:

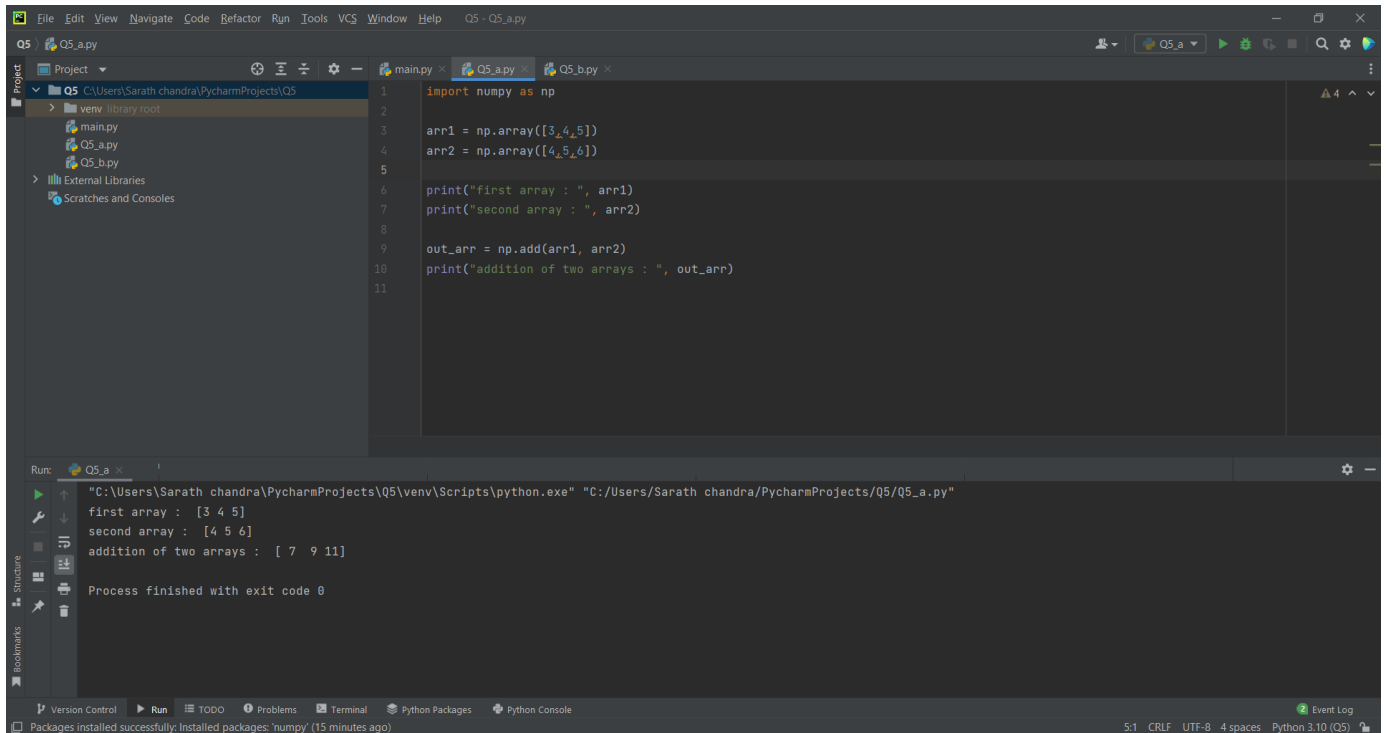
```
1 import pandas as pd
2 series = pd.Series(input("enter the strings\n"))
3 newseries = series.str.title()
4 print("resulting series : ")
5 print(newseries)
6
7
```

The Run console at the bottom shows the execution output:

```
enter the strings
Amrita school of engineering Chennai campus
resulting series :
0 Amrita School Of Engineering Chennai Campus
dtype: object
Process finished with exit code 0
```

The status bar at the bottom indicates that the packages installed successfully, including 'pandas' (7 minutes ago).

## Q-5\_A: addn of 2 numpy arrays



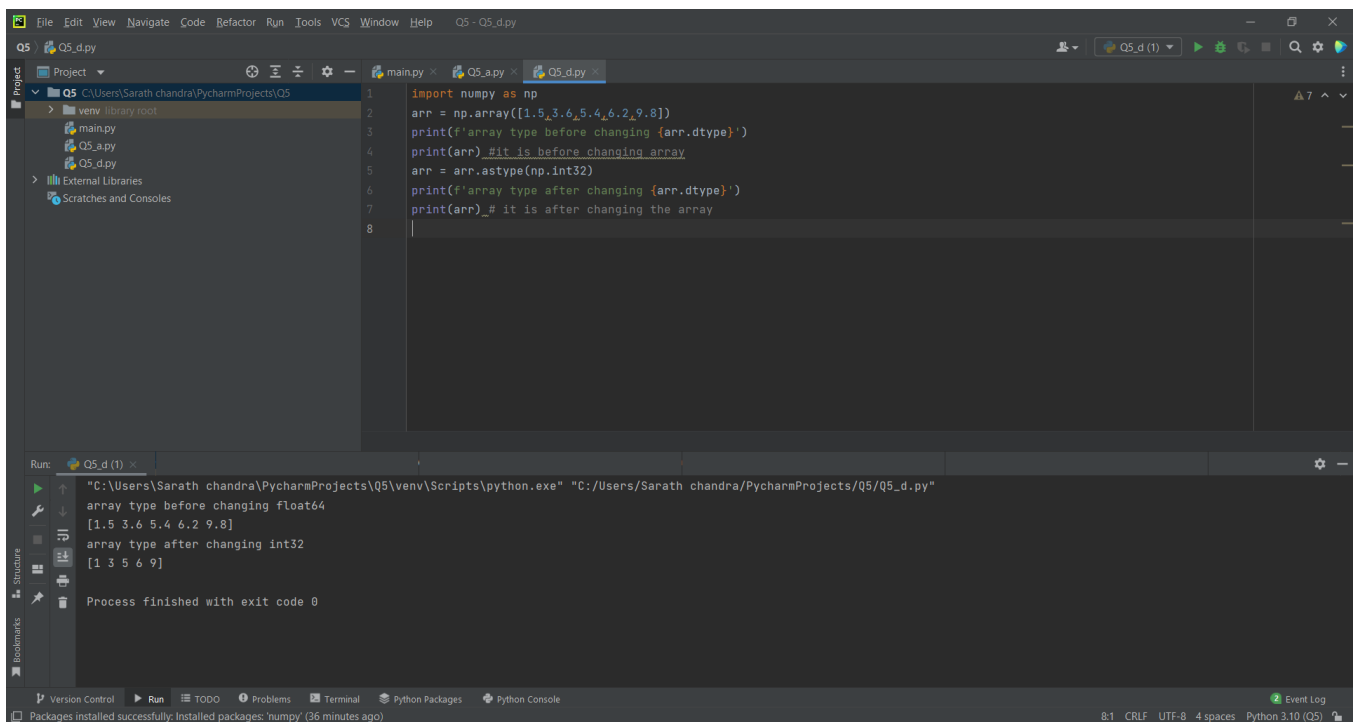
```
1 import numpy as np
2
3 arr1 = np.array([3,4,5])
4 arr2 = np.array([4,5,6])
5
6 print("first array : ", arr1)
7 print("second array : ", arr2)
8
9 out_arr = np.add(arr1, arr2)
10 print("addition of two arrays : ", out_arr)
11
```

Run: Q5\_a

```
"C:\Users\Sarath chandra\PycharmProjects\Q5\venv\Scripts\python.exe" "C:\Users\Sarath chandra\PycharmProjects\Q5\Q5_a.py"
first array : [ 3  4  5]
second array : [ 4  5  6]
addition of two arrays : [ 7  9 11]

Process finished with exit code 0
```

## Q-5\_D: Array datatype conversion



```
1 import numpy as np
2 arr = np.array([1.5,3.6,5.4,6.2,9.8])
3 print(f'array type before changing {arr.dtype}')
4 print(arr) #it is before changing array
5 arr = arr.astype(np.int32)
6 print(f'array type after changing {arr.dtype}')
7 print(arr) # it is after changing the array
8
```

Run: Q5\_d (1)

```
"C:\Users\Sarath chandra\PycharmProjects\Q5\venv\Scripts\python.exe" "C:\Users\Sarath chandra\PycharmProjects\Q5\Q5_d.py"
array type before changing float64
[1.5 3.6 5.4 6.2 9.8]
array type after changing int32
[ 1  3  5  6  9]

Process finished with exit code 0
```