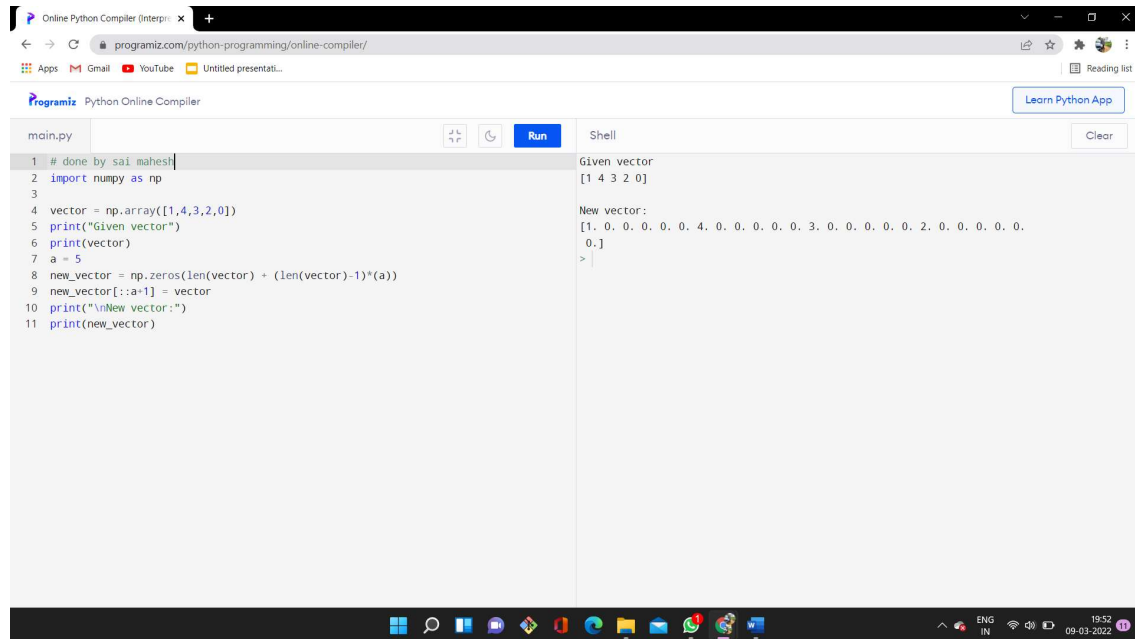


Task 8

Q1



The screenshot shows the Programiz Python Online Compiler interface. The left pane contains a Python script named `main.py` with the following code:

```
1 # done by sai mahesh
2 import numpy as np
3
4 vector = np.array([1,4,3,2,0])
5 print("Given vector")
6 print(vector)
7 a = 5
8 new_vector = np.zeros(len(vector) + (len(vector)-1)*(a))
9 new_vector[::a+1] = vector
10 print("\nNew vector:")
11 print(new_vector)
```

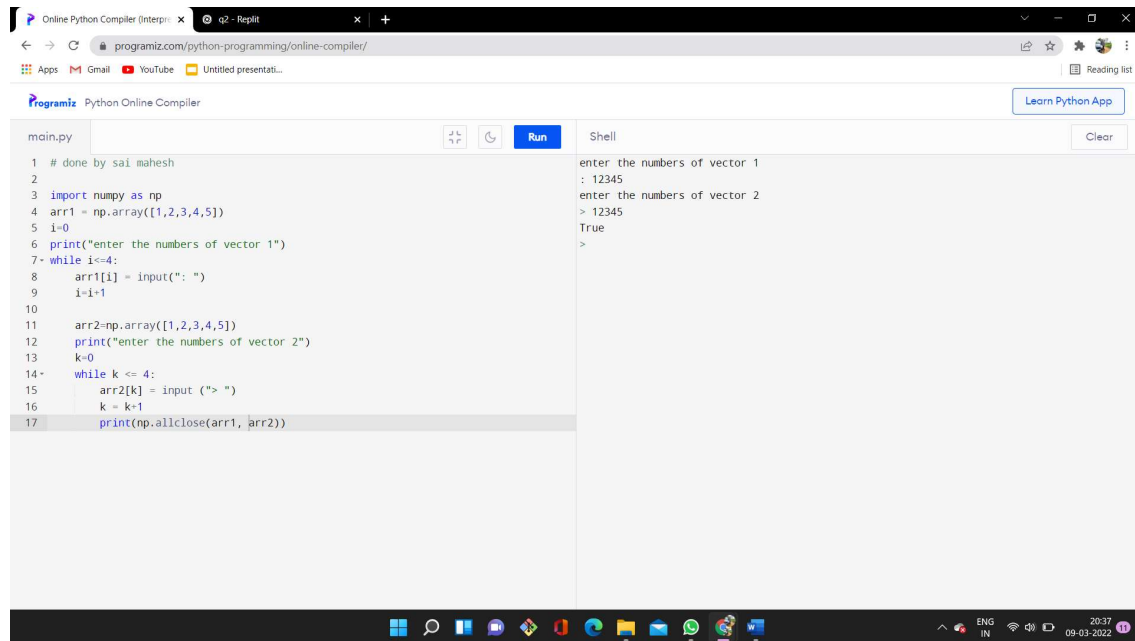
The right pane, labeled "Shell", shows the output of the script:

```
Given vector
[1 4 3 2 0]

New vector:
[1. 0. 0. 0. 0. 0. 4. 0. 0. 0. 0. 0. 3. 0. 0. 0. 0. 2. 0. 0. 0. 0.
 0.]
>
```

The browser's address bar shows `programiz.com/python-programming/online-compiler/`. The Windows taskbar at the bottom indicates the date and time as 19:52 on 09-03-2022.

Q2



The screenshot shows the Programiz Python Online Compiler interface. The left pane contains a Python script named `main.py` with the following code:

```
1 # done by sai mahesh
2
3 import numpy as np
4 arr1 = np.array([1,2,3,4,5])
5 i=0
6 print("enter the numbers of vector 1")
7 while i<=4:
8     arr1[i] = input(": ")
9     i=i+1
10
11 arr2=np.array([1,2,3,4,5])
12 print("enter the numbers of vector 2")
13 k=0
14 while k <= 4:
15     arr2[k] = input("> ")
16     k = k+1
17 print(np.concatenate(arr1, arr2))
```

The right pane, labeled "Shell", shows the interactive output of the script:

```
enter the numbers of vector 1
: 12345
enter the numbers of vector 2
> 12345
True
>
```

The browser's address bar shows `programiz.com/python-programming/online-compiler/`. The Windows taskbar at the bottom indicates the date and time as 20:57 on 09-03-2022.

Q3

The screenshot shows a Replit environment with a file named `main.py` containing the following Python code:

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

The console output on the right shows the results of these operations:

```
nan
True
False
nan
False
> |
```

The bottom status bar indicates the system is running on a Windows 10 desktop environment with a taskbar showing various application icons.

Q4

The screenshot shows the Programiz Python Online Compiler interface. The code in `main.py` is as follows:

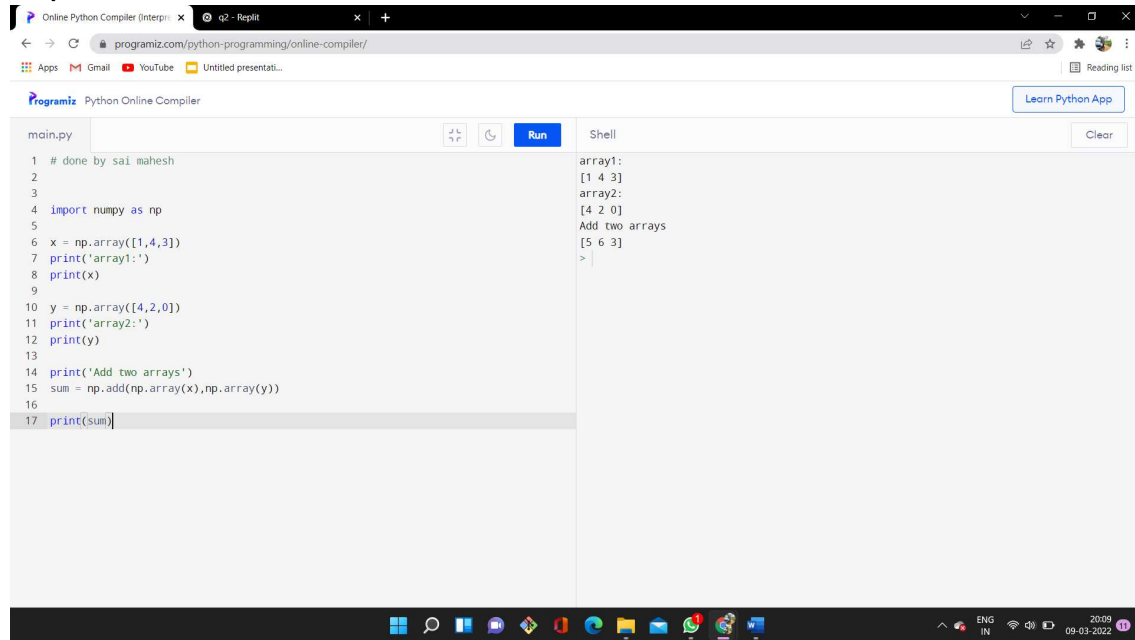
```
1 # done by sai mahesh
2
3 import pandas as pd
4
5 ser = pd.Series(['Virat', 'is', 'very', 'talented', 'cricket', 'player'])
6
7 newseries = ser.map(lambda x: x[0].upper() + x[1:-1] + x[-1])
8
9 print(newseries)
```

The shell output on the right displays the result of the pandas operation:

```
0    Virat
1      Is
2    Very
3  Talented
4  Cricket
5   Player
dtype: object
> |
```

The bottom status bar shows the system is running on a Windows 10 desktop environment with a taskbar showing various application icons.

Q5 p1



The screenshot shows a web browser window with the URL `programiz.com/python-programming/online-compiler/`. The page title is "Programiz Python Online Compiler". The main area is split into two panes. The left pane, titled "main.py", contains the following Python code:

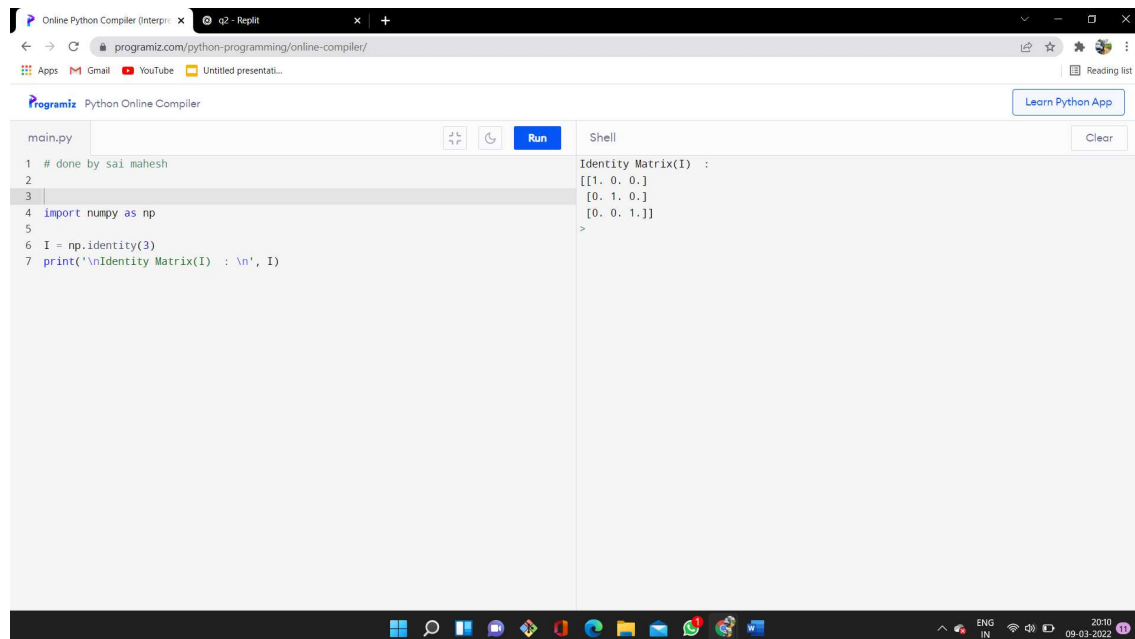
```
1 # done by sai mahesh
2
3
4 import numpy as np
5
6 x = np.array([1,4,3])
7 print('array1:')
8 print(x)
9
10 y = np.array([4,2,0])
11 print('array2:')
12 print(y)
13
14 print('Add two arrays')
15 sum = np.add(np.array(x),np.array(y))
16
17 print(sum)
```

The right pane, titled "Shell", shows the output of the program:

```
array1:
[1 4 3]
array2:
[4 2 0]
Add two arrays
[5 6 3]
>
```

The bottom of the image shows a Windows taskbar with various application icons and a system clock displaying "2009 09-03-2022".

Q5 p2



The screenshot shows the same online Python compiler interface. The left pane, titled "main.py", contains the following Python code:

```
1 # done by sai mahesh
2
3
4 import numpy as np
5
6 I = np.identity(3)
7 print('\nIdentity Matrix(I) : \n', I)
```

The right pane, titled "Shell", shows the output of the program:

```
Identity Matrix(I) :
[[1.  0.  0.]
 [0.  1.  0.]
 [0.  0.  1.]]
>
```

The bottom of the image shows a Windows taskbar with various application icons and a system clock displaying "2010 09-03-2022".