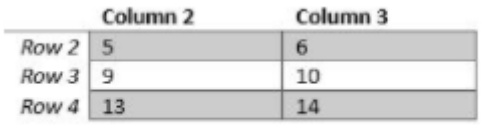
Assignment -2

Python Programming

PGCP DSML IITR-Times TSW

Qn. No	Question
1	**Write a Pandas program to add, subtract, multiple and divide two Pandas Series.** [2, 4, 6, 8, 10], [1, 3, 5, 7, 9]
2	**Write a Pandas program to convert a dictionary to a Pandas series.** {'a': 100, 'b': 200, 'c': 300, 'd': 400, 'e': 800}
3	**Write a Pandas program to convert a NumPy array to a Pandas series** NumPy array: [10 20 30 40 50]
4	**Write a Pandas program to convert a given Series to an array.** 0 100 1 200 2 python 3 300.12 4 400
5	**Write a Pandas program to calculate the number of characters in each word in a given series.** 0 Php 1 Python 2 Java 3 C#
6	**Create the following Dataframe using Pandas** |	Column 1	Column 2	Column 3	Column 4 | | --- | --- | --- | --- | --- | | *Row 1* | 0 | 1 | 2 | 3 | | *Row 2* | 4 | 5 | 6 | 7 | | *Row 3* | 8 | 9 | 10 | 11 | | *Row 4* | 12 | 13 | 14 | 15 | | *Row 5* | 16 | 17 | 18 | 19 |
7	**Convert the given Dataframe (question 6) into csv file**
8	**From Qn 6, access the Row-2 elements and show the type of these elements using appropriate Pandas function.**

<table>
<tr><td>9</td><td>Print the following data frame by using the data given in previous question and also show the type of the elements.

 
<table>
<tr><th></th><th>Column 2</th><th>Column 3</th></tr>
<tr><td>Row 2</td><td>5</td><td>6</td></tr>
<tr><td>Row 3</td><td>9</td><td>10</td></tr>
<tr><td>Row 4</td><td>13</td><td>14</td></tr>
</table></td></tr>
<tr><td>10</td><td>Convert the above Dataframe into array also find the order(shape) of the array</td></tr>
<tr><td>11</td><td>Plot the scatter graph using matplotlib for the following values of x and y


```
x = 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
y = 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
```


Put the name of axis 'x-axis', 'y-axis' and title: 'Scatter Plot'. Save this plot as 'png' format file with name as 'XYZ'.</td></tr>
<tr><td>12</td><td>Using the previous values of x plot the line curve for y = x^2, y=x^3, y =(x-1)^3 with blue colour. Also plot dashed line and a line which show the given points</td></tr>
<tr><td>13</td><td>Using sub-plot plot all 4 graphs in (2*2) matrix form</td></tr>
<tr><td>14</td><td>Using matplotlib create the pie chart for following fruits in different colour and using explode slice the apple. Also, the pie chart should show the distribution of fruits in percentage.


```
Fruit       Quantity(numbers)

Apple         245
Banana        210
Mango         154
Orange        188
Papaya         80
Pineapple      40
```

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</table>

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