

Assignment -1
Python Programming

Assignment Date	18 OCTOBER 2022
Student Name	SANTHOSH J
Student Roll Number	19IT048
Maximum Marks	2 Marks

Question-1:

Split this string

Solution:	
	<pre>s = "Hi there Sam!"</pre>
	<pre>print(s.split())</pre>
	#-----#
	#-----#



Question-2:

Use .format() to print the following string.
Output should be: The diameter of Earth is 12742 kilometers.

Solution:	
	<pre>planet = "Earth"</pre>
	<pre>diameter = 12742</pre>
	<pre>txt="The diameter of {plt} is {dr} kilometres.".format(plt=planet,dr=diameter)</pre>
	<pre>print(txt)</pre>

	#-----#
	#-----#



Question 3:

In this nest dictionary grab the word "hello"

Solution:

	<pre>d = {'k1': [1, 2, 3, {'tricky': ['oh', 'man', 'inception', {'target': [1, 2, 3, 'hello']}]}]}</pre>

Question 4.1:

Create an array of 10 zeros?

Solution:

	<pre>import numpy as np</pre>
	<pre>array=np.zeros(10)</pre>
	<pre>print(array)</pre>

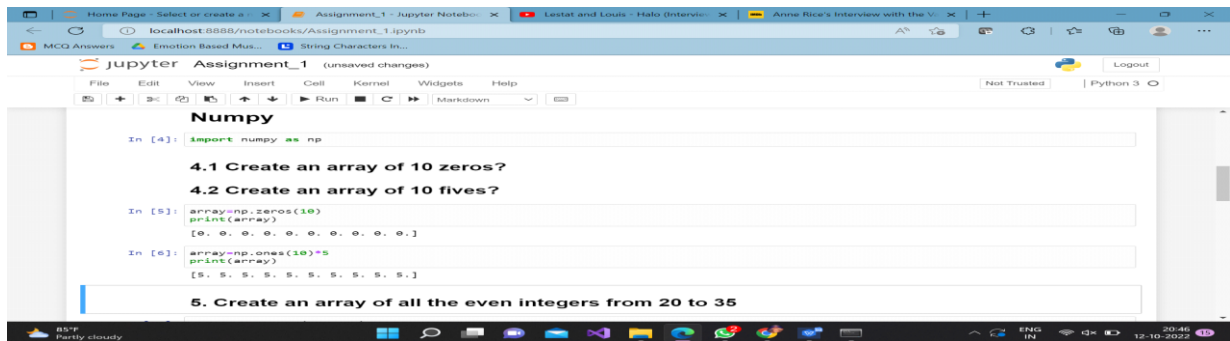
Question4.2:

Create an array of 10 fives?

Solution:

```
import numpy as np
```

```
array=np.ones(10)*5print(array)
```

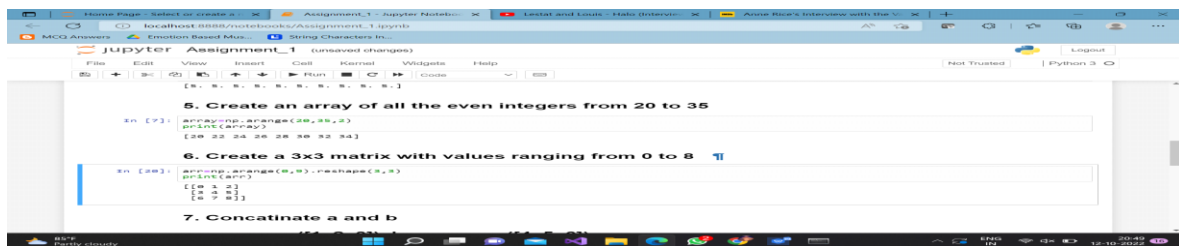


Question 5:

Create an array of all the even integers from 20 to 35

Solution:

```
array=np.arange(20, 35, 2)
print(array)
```

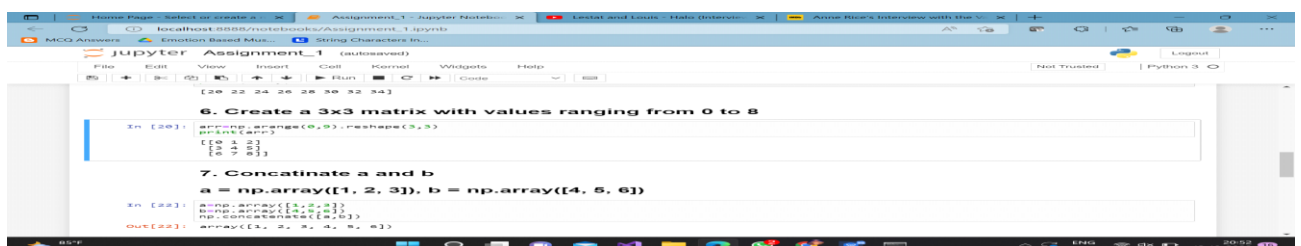


Question 6:

Create a 3x3 matrix with values ranging from 0 to 8

Solution:

```
arr=np.arange(0, 9).reshape(3, 3)
print(arr)
```



Question 7:

Concatenate a and b

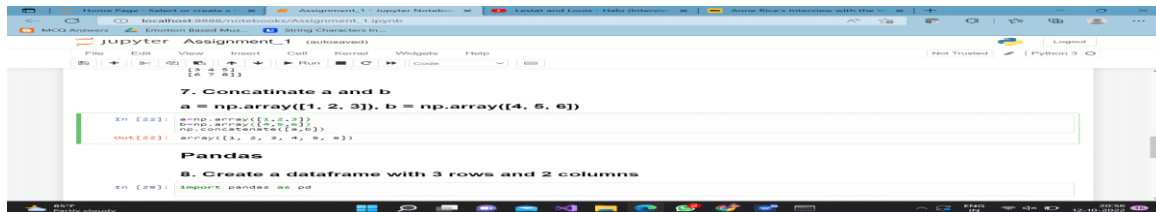
```
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])
```

Solution:

```
a=np. array([1, 2, 3])
```

```
b=np. array([4, 5, 6])
```

```
np. concatenate([a, b])
```



The screenshot shows a Jupyter Notebook interface with a code cell containing the following Python code:

```
7. Concatenate a and b
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

In [22]: a=np.array([1, 2, 3])
          b=np.array([4, 5, 6])
          np.concatenate([a, b])
Out[22]: array([1, 2, 3, 4, 5, 6])
```

Below the code cell, there is a section titled "Pandas" with a sub-header "8. Create a dataframe with 3 rows and 2 columns". The code cell for this section is partially visible, showing the import statement:

```
In [23]: import pandas as pd
```

Question 8:

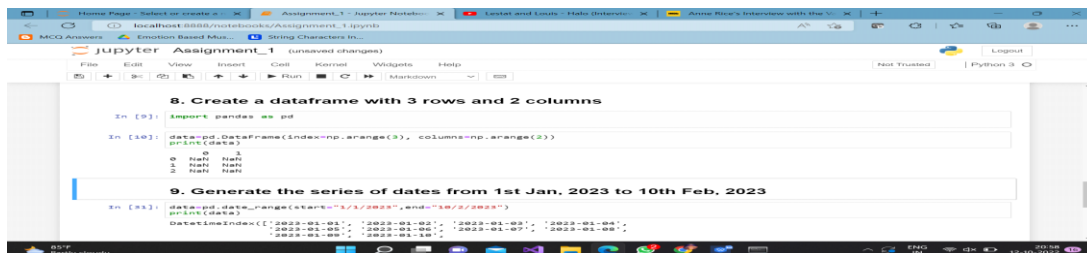
Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
```

```
data=pd.DataFrame(index=np.arange(3), columns=np.arange(2))
```

```
print(data)
```



The screenshot shows a Jupyter Notebook interface with two code cells. The first cell, titled "8. Create a dataframe with 3 rows and 2 columns", contains the following code:

```
In [9]: import pandas as pd
In [10]: data=pd.DataFrame(index=np.arange(3), columns=np.arange(2))
          print(data)
Out[10]:
   0  1
0  NaN NaN
1  NaN NaN
2  NaN NaN
```

The second cell, titled "9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023", contains the following code:

```
In [11]: data=pd.date_range(start="1/1/2023", end="10/2/2023")
          print(data)
Out[11]:
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10'],
              dtype='datetime64[ns]', freq='D')
```

Question 9:

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

Solution:

```
data=pd.date_range(start="1/1/2023", end="10/2/2023")
```

```
print(data)
```

```
9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

In [11]: data=pd.date_range(start="1/1/2023",end="10/2/2023")
print(data)
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
              '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
              '2023-01-09', '2023-01-10',
              '2023-01-11', '2023-01-12', '2023-01-13', '2023-01-14',
              '2023-01-15', '2023-01-16', '2023-01-17', '2023-01-18',
              '2023-01-19', '2023-01-20', '2023-01-21', '2023-01-22',
              '2023-01-23', '2023-01-24', '2023-01-25', '2023-01-26',
              '2023-01-27', '2023-01-28', '2023-01-29', '2023-01-30',
              '2023-01-31', '2023-02-01', '2023-02-02'],
              dtype='datetime64[ns]', length=278, freq='D')

10. Create 2D list to DataFrame

In [12]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

Question 10:

Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

Solution:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
data=pd.DataFrame(lists,columns=["s.no","pattern","number"])print(data)
```

```
10. Create 2D list to DataFrame

In [12]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
In [13]: data=pd.DataFrame(lists,columns=["s.no","pattern","number"])
print(data)

Out[13]:
   s.no pattern number
0     1     aaa     22
1     2     bbb     25
2     3     ccc     24
```