

Assignment -1
Python Programming

Assignment Date	29 September 2022
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Student Roll Number	812419104706
Maximum Marks	2 Marks

Questions:

Basic Python

1. Split this string

```
s = "Hi there Sam!"
```

In []:

```
In [ ]: print(s.split())
```

OUTPUT

```
['Hi', 'there', 'Sam!']
```

2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

```
planet = "Earth" diameter = 12742
```

In []:

OUTPUT

In []:

```
print('The diameter of {} is {} kilometers'.format(planet,diameter))  
The diameter of Earth is 12742 kilometers
```

3. In this nest dictionary grab the word "hello"

```
d =  
{ 'k1': [1,2,3,{'tricky': ['oh', 'man', 'inception', {'target': [1,2,3, 'hello']}]} ] }
```

In []:

OUTPUT

In []:

```
d['k1'][3]['tricky'][3]['target'][3]
```

Out[]:

```
'hello'
```

Numpy

```
import numpy as np
```

In []:

Create an array of 10 zeros?

Create an array of 10 fives?

OUTPUT

```
np.zeros([10])
```

In []:

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

Out[]:

OUTPUT

```
np.ones([10])*4
```

In []:

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

Out[]:

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

OUTPUT

```
even = np.arange(20,35,2) print(even)
[20 22 24 26 28 30 32 34]
```

In []:

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

OUTPUT

```
mat = np.arange(0,9).reshape(3,3) print(mat)
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

In []:

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

OUTPUT

```
In [ ]:  
a = np.array([1, 2, 3]) b = np.array([4, 5, 6]) np.concatenate((a,b),axis=0)  
  
Out[ ]:  
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

OUTPUT

```
In [ ]:  
import pandas as pd  
  
In [ ]:  
data = {'name':['kumar','kavin','suresh'],'age':[20,21,22]} df =  
pd.DataFrame(data) df  
  
Out[ ]:  
  
name age 0  
  
kumar 20  
  
1 kavin 21  
  
2 suresh 22
```

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

OUTPUT

```
In [ ]:
from datetime import date, timedelta

<generator object dates_bwn_twodates at 0x7fe61b6a3e50>

In [ ]:
import pandas
pandas.date_range(sdate, edate-timedelta(days=1), freq='d')

Out [ ]:
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', '2023-02-03', '2023-02-04', '2023-02-05',
              '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',
              '2023-02-10', '2023-02-11', '2023-02-12', '2023-02-13',
              '2023-02-14', '2023-02-15', '2023-02-16', '2023-02-17',
              '2023-02-18', '2023-02-19', '2023-02-20', '2023-02-21',
              '2023-02-22', '2023-02-23', '2023-02-24', '2023-02-25',
              '2023-02-26', '2023-02-27', '2023-02-28', '2023-03-01',
              '2023-03-02', '2023-03-03', '2023-03-04', '2023-03-05',
              '2023-03-06', '2023-03-07', '2023-03-08', '2023-03-09',
              '2023-03-10'],
              dtype='datetime64[ns]', freq='D')
```

10. Create 2D list to DataFrame

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

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

OUTPUT

```
In [ ]:
df = pd.DataFrame(lists) df
```

```
Out [ ]:
   0  1  2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```