

Assignment -1

Python Programming

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

Basic Python

1. Split this string

```
In [ ]: s = "Hi there Sam!"
```

```
In [ ]: s = "Hi there Sam!"
s=s.split()
print(s)

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

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

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

```
In [ ]: planet = "Earth"
diameter = 12742
```

```
In [ ]: planet = "Earth"
diameter = 12742
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"

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

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

hello

Numpy

```
In [ ]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [ ]: array=np.zeros(10)
print('An array of 10 zeros')
print(array)
```

An array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
In [ ]: array=np.ones(10)*5
print('An array of 10 fives')
print(array)
```

An array of 10 fives
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

```
In [ ]: np.arange(0,9).reshape((3,3))
```

```
Out[ ]: array([[0, 1, 2],
               [3, 4, 5],
               [6, 7, 8]])
```

7. Concatenate a and b

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

```
In [ ]: arr=np.array([[1,2,3],[4,5,6]] )
        print(arr)
```

```
[[1 2 3]
 [4 5 6]]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

```
In [ ]: a=[['keerthana',20],['Maya',25],['Roszhan',30]]
        df = pd.DataFrame(a)
        df
```

```
Out[ ]:      0  1
0  keerthana  20
1      Maya  25
2  Roszhan  30
```

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

```
In [ ]: import pandas as pd
        import datetime
        test_date = datetime.datetime.strptime("01-1-2023", "%d-%m-%Y")
        k=41
        date_gen=pd.date_range(test_date , periods=k)
        print(date_gen.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',
       '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',
       '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',
       '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',
       '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',
       '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',
       '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',
       '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',
       '10-02-2023'],
      dtype='object')
```

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]]
```

```
In [ ]: data = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
        df=pd.DataFrame(data,columns=['Category','Name','Marks'])
        print(df)
```

```
   Category  Name  Marks
0         1   aaa    22
1         2   bbb    25
2         3   ccc    24
```

