ASSIGNMENT – 1

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Maximum Marks	2 Marks

Basic Python

1. Split this string

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

In [ ]:
```
x=s.split(" ")
print(x)
```

```
['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 [ ]:
```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
a=lst[3][1][2];
print(a)
```

```
['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.]
```

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

In [ ]:
```
import numpy as np
array=np.arange(20,36,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

```
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

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

```
[[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 [ ]:

```
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

In [1]:

```
import pandas as pd
```

In [2]:

```
import pandas as pd
df = pd.DataFrame()
df['name'] = ['sneha','safana','priya']
df['reg'] = [7,13,23]
print(df)
```

```
     name  reg
0   sneha    7
1  safana   13
2   priya   23
```

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

In [3]:

```
import pandas as pd
sd = pd.date_range(start = '1-1-2023', end = '10-02-2023', freq='24H')
print(sd)
```

```
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',
               ...
               '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
               '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
               '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, freq='24H')
```

10. Create 2D list to DataFrame

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

In [4]:

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

In [7]:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns = ['s.no','name','mark'])
print(df)
```

```
   s.no name  mark
0     1  aaa    22
1     2  bbb    25
2     3  ccc    24
```