

## Assignment -1

|                     |                   |
|---------------------|-------------------|
| Assignment Date     | 25 September 2022 |
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| Student Roll Number | 811519104049      |
| Maximum Marks       | 2 Marks           |

# 1 Basic Python

## 1.1 1. Split this string

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

```
[5]: ls=s.split(" ")
     print(ls)
```

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

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

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

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

```
[8]: print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

```
The diameter of Earth is 12742 kilometers.
```

## 1.3 3. In this nest dictionary grab the word “hello”

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

```
[12]: print(d['k1'][3]['tricky'][3]['target'][3])
```

```
hello
```

# 2 Numpy

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

## 2.1 4.1 Create an array of 10 zeros?

## 2.2 4.2 Create an array of 10 fives?

```
[16]: arr1=np.full(10,0)
      print(arr1)
```

```
[0 0 0 0 0 0 0 0 0 0]
```

```
[15]: arr1=np.full(10,5)
      print(arr1)
```

```
[5 5 5 5 5 5 5 5 5 5]
```

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

```
[19]: arr3=np.arange(20,35,2)
      print(arr3)
```

```
[20 22 24 26 28 30 32 34]
```

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

```
[22]: arr4=np.arange(0,9).reshape(3,3)
      print(arr4)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

## 2.5 7. Concatenate a and b 2.6 a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

```
[25]: a=np.array([1,2,3])
      b=np.array([4,5,6])
      c=np.concatenate((a,b),axis=None)
      print(c)
```

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

## 3 Pandas

### 3.1 8. Create a dataframe with 3 rows and 2 columns

```
1  2
1  NaN NaN
2  NaN NaN
3  NaN NaN
```

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

```
[32]: df=pd.DataFrame(index=[1,2,3],columns=[1,2])
      print(df)
```

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

```
[34]: d=pd.date_range(start='1-1-2023',end='2-10-2023')
      print(d)
```

```
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'],
              dtype='datetime64[ns]',
              freq='D')
```

### 3.3 10. Create 2D list to DataFrame

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

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

```
[36]: df1=pd.DataFrame(lists)
      print(df1)
```

```
   0    1    2
0   1  aaa  22
1   2  bbb  25
2   3  ccc  24
```