

**Assignment -1**  
**Basic Python**

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

1) SPLIT THE STRING:

```
s = "Hi there Sam!"  
s.split(" ")
```

OUTPUT:

```
1. Split this string  
  
In [1]: s = "Hi there Sam!"  
  
In [2]: s.split(" ")  
  
Out[2]: ['Hi', 'there', 'Sam!']
```

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

CODE:

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

OUTPUT:

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

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

```
In [3]: planet = "Earth"
        diameter = 12742
```

```
In [4]: print("The diameter of Earth is {} kilometers.".format(diameter))
```

The diameter of Earth is 12742 kilometers.

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

CODE:

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

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

```
print(result)
```

OUTPUT:

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

```
In [5]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [6]: result=d['k1'][3]['tricky'][3]['target'][3]
        print(result)
```

hello

4) Create an array of 10 zeros and Create an array of 10 fives

CODE:

```
import numpy as np
```

```
array=np.zeros(10)
```

```
print(array)
```

```
arr1=np.ones(10)*5
```

```
print(arr1)
```

OUTPUT:

## Numpy

```
In [2]: import numpy as np
```

### 4.1 Create an array of 10 zeros?

### 4.2 Create an array of 10 fives?

```
In [3]: array=np.zeros(10)  
print(array)
```

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

```
In [4]: arr1=np.ones(10)*5  
print(arr1)
```

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

5) Create an array of 10 zeros and Create an array of 10 fives?

CODE:

```
array=np.zeros(10)
```

```
print(array)
```

```
arr1=np.ones(10)*5
```

```
print(arr1)
```

OUTPUT:

## Numpy

```
In [2]: import numpy as np
```

**4.1 Create an array of 10 zeros?**

**4.2 Create an array of 10 fives?**

```
In [3]: array=np.zeros(10)  
print(array)
```

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

```
In [4]: arr1=np.ones(10)*5  
print(arr1)
```

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

- 6) Create an array of all the even integers from 20 to 35 and Create a 3x3 matrix with values ranging from 0 to 8

CODE:

```
arr2=np.arange(20,35,2)
```

```
print(arr2)
```

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

```
print(x)
```

OUTPUT:

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

```
In [5]: arr2=np.arange(20,35,2)
        print(arr2)

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

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

```
In [6]: x=np.arange(0,9).reshape(3,3)
        print(x)

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

7) Create a dataframe with 3 rows and 2 columns

CODE:

```
import pandas as pd

import numpy as np

array=np.random.randint(10,size=(3,2))

array=([9,2,2],
        [3,5,1],
        [4,9,8],
        [3,4,5])

df=pd.DataFrame(array)

df
```

OUTPUT:

# Pandas

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

```
In [8]: import pandas as pd
import numpy as np
```

```
In [ ]: array=np.random.randint(10,size=(3,2))
array=([9,2,2],
       [3,5,1],
       [4,9,8],
       [3,4,5])
df=pd.DataFrame(array)
df
```

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

CODE:

```
import pandas as pd
```

```
dRan3 = pd.date_range(start='2023-01-01', end='2023-02-10').to_pydatetime().tolist()
```

```
print(dRan3)
```

OUTPUT:

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

```
In [2]: import pandas as pd
dRan3 = pd.date_range(start='2023-01-01', end='2023-02-10').to_pydatetime().tolist()
print(dRan3)
```

```
[datetime.datetime(2023, 1, 1, 0, 0), datetime.datetime(2023, 1, 2, 0, 0), datetime.datetime(2023, 1, 3, 0, 0), datetime.datetime(2023, 1, 4, 0, 0), datetime.datetime(2023, 1, 5, 0, 0), datetime.datetime(2023, 1, 6, 0, 0), datetime.datetime(2023, 1, 7, 0, 0), datetime.datetime(2023, 1, 8, 0, 0), datetime.datetime(2023, 1, 9, 0, 0), datetime.datetime(2023, 1, 10, 0, 0), datetime.datetime(2023, 1, 11, 0, 0), datetime.datetime(2023, 1, 12, 0, 0), datetime.datetime(2023, 1, 13, 0, 0), datetime.datetime(2023, 1, 14, 0, 0), datetime.datetime(2023, 1, 15, 0, 0), datetime.datetime(2023, 1, 16, 0, 0), datetime.datetime(2023, 1, 17, 0, 0), datetime.datetime(2023, 1, 18, 0, 0), datetime.datetime(2023, 1, 19, 0, 0), datetime.datetime(2023, 1, 20, 0, 0), datetime.datetime(2023, 1, 21, 0, 0), datetime.datetime(2023, 1, 22, 0, 0), datetime.datetime(2023, 1, 23, 0, 0), datetime.datetime(2023, 1, 24, 0, 0), datetime.datetime(2023, 1, 25, 0, 0), datetime.datetime(2023, 1, 26, 0, 0), datetime.datetime(2023, 1, 27, 0, 0), datetime.datetime(2023, 1, 28, 0, 0), datetime.datetime(2023, 1, 29, 0, 0), datetime.datetime(2023, 1, 30, 0, 0), datetime.datetime(2023, 1, 31, 0, 0), datetime.datetime(2023, 2, 1, 0, 0), datetime.datetime(2023, 2, 2, 0, 0), datetime.datetime(2023, 2, 3, 0, 0), datetime.datetime(2023, 2, 4, 0, 0), datetime.datetime(2023, 2, 5, 0, 0), datetime.datetime(2023, 2, 6, 0, 0), datetime.datetime(2023, 2, 7, 0, 0), datetime.datetime(2023, 2, 8, 0, 0), datetime.datetime(2023, 2, 9, 0, 0), datetime.datetime(2023, 2, 10, 0, 0)]
```

## 9) Create 2D list to DataFrame

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

OUTPUT:

## 10. Create 2D list to DataFrame

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

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

```
4]: df = pd.DataFrame(lists, columns=['ID', 'number', 'no'])  
print(df)
```

	ID	number	no
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24