**Assignment -1**
Python Programming

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|---|---|
| Assignment Date | 24 September 2022 |
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| Student Roll Number | 2019PITIT147 |
| Maximum Marks | 2 Marks |

1. Split this string

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

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

```
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']}]}]}

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

```
hello
```

4. Numpy

   a. Create an array of 10 zeros?

```
import numpy as np
print(np.zeros(10))
```

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

b. Create an array of 10 fives?

```
import numpy as np
print(np.ones(10)*5)
```

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

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

```
import numpy as np
print(np.arange(20,35, 2))
```

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

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

```
import numpy as np
print(np.arange(0,9).reshape(3,3))
```

```
[[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])

```
import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
c= np.concatenate((a, b), axis=0)
print(c)
```

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

8. Pandas

    a. Create a dataframe with 3 rows and 2 columns

```
1  import pandas as pd
2  d = [["Idly", 10], ["Dosa", 12], ["Poori", 20]]
3  print(pd.DataFrame(d, columns=["Items", "Price"]))
```

```
   Items  Price
0   Idly     10
1   Dosa     12
2  Poori     20
```

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

```
1  import pandas as pd
2  print(pd.date_range(start='01/01/2023', end='02/10/2023'))
```

input

```
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')
```

10. Create 2D list to DataFrame

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

```
1  import pandas as pd
2  lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
3  print(pd.DataFrame(lists, columns=['S.No', 'Letter', 'Digit']))
```

input

```
   S.No  ... Digit
0     1  ...    22
1     2  ...    25
2     3  ...    24

[3 rows x 3 columns]
```