

Assignment -1

Python Programming

| | |
|---------------------|-------------------|
| Assignment Date | 19 September 2022 |
| Student Name | Akshaya.V |
| Student Roll Number | 19cs03 |
| Maximum Marks | 2 Marks |

Basic Python

1. Split this string

[8]

```
s = "Hi there Sam!"
```

[9]

```
s.split()
```

Output:

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

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

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

[6]

```
planet = "Earth"
```

```
diameter = 12742
```

[7]

```
print("The diameter of {} is {} kilometers.".format(planet,diameter));
```

Output:

The diameter of Earth is 12742 kilometers.

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

[10]

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

[11]

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

Output:

'hello'

AA Numpy

[13]

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

[14]

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

[15]

```
a
```

Output:

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

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

[16]

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

```
b
```

Output:

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

[17]

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

```
c
```

Output:

```
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])  
[18]
```

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

Output:

```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a data frame with 3 rows and 2 columns

```
[19]
```

```
import pandas as pd
```

```
[20]
```

```
d = {"fruits":["mango","orange","apple"],"color":["yellow","orange","red"]}  
df = pd.DataFrame(d)  
df
```

Output:

| | fruits | color |
|---|--------|--------|
| 0 | mango | yellow |
| 1 | orange | orange |
| 2 | apple | red |

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

```
[21]
```

```
P = pd.date_range(start='1-1-2023',end='10-2-2023')  
for val in P:  
    print(val);
```

Output:

```
2023-01-01 00:00:00  
2023-01-02 00:00:00  
2023-01-03 00:00:00  
2023-01-04 00:00:00
```

2023-01-05 00:00:00
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10. Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
[22]  
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
[23]  
df = pd.DataFrame(lists)  
df
```

Output:

| | 0 | 1 | 2 |
|---|---|-----|----|
| 0 | 1 | aaa | 22 |
| 1 | 2 | bbb | 25 |
| 2 | 3 | ccc | 24 |