ASSINGMENT-1

Python Programming

Assignment Data	29 September 2022
Team ID	PNT2022TMID47635
Project Name	Fertilizers recommendation System for Disease Prediction
Maximum Mark	2Marks

Basic Python

1. Split this string

In [1]:
```
s = "Hi there Sam!"
```

In [2]:
```
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 [3]:
```
planet = "Earth"
```

```
diameter = 12742
```

In [4]:

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

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

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]:

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

```
hello
```

Numpy

In [7]:

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [8]:

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

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

In [9]:

```
fives=np.ones(10)*5
print(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 [10]:

```
array=np.arange(20,36,2)
print(array)
```

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

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

In [11]:

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

```
[[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 [12]:

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

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [13]:

```
import pandas as pd
```

In [14]:

```
data = {'Name': ['Tom', 'John', 'Krish'], 'Age': [21, 20, 19]}
df=pd.DataFrame(data,index=[1,2,3])
df
```

Out[14]:

	Name	Age
1	Tom	21
2	John	20
3	Krish	19

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

In [16]:

```
period = pd.date_range(start ='01-01-2023', end ='02-10-2023')
for val in period:
    print(val)
```

```
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
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

In [17]:

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

In [18]:

```
df = pd.DataFrame(lists, columns =['1-digits', 'letters','2-digits'])
print(df)
```

```
   1-digits letters  2-digits
0         1     aaa        22
1         2     bbb        25
2         3     ccc        24
```