Assignment - I

Fertilizer recommendation system for disease prediction

Assignment Date	2 September 2022
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Maximum marks	2 marks

Basic Python

1. Split this string `s = "Hi there Sam!"`

```
s= " Hi there sam!"
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.

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

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'][3]['tricky'][3]['target'][3]

'hello'
```

Numpy

```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

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

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

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

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

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

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

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

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

```
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])

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd

d={"name":["arun","maris","kathick"],"age":[20,19,18]}
df=pd.DataFrame(d) df
```

```
      name  age 0
arun   20
1    maris   19
2    kathick   18
```

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

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

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

df = pd.DataFrame(lists)
df
```

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