

# Assignment - 1

## Fertilizer recommendation system for disease prediction

### Basic Python

#### 1. Split this string

```
s = "Hi there arun!"
```

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

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

#### 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","rupa","vedha"],"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)
```

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```

## 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