

**Assignment -1**  
Basic Python Programming in ipynb

Assignment Date	07 November 2022
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Maximum Marks	2 Marks

## Basic Python

### 1. Split this string

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

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

```
Hi there Sam!  
['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  
  
planet=  
"Earth"  
diameter=1274  
2  
print( 'The diameter of {} is {}  
kilometers.'.format(planet,diameter)); 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, 'hel  
lo'] } ] } ] }  
  
d={ 'k1': [1,2,3, { 'tricky': ['oh', 'man', 'inception', { 'target': [1,2,3, 'h  
ello'] } ] } ] }  
print(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?

```
import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:") print(array)
```

An array of 10 zeros:  
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
import numpy as np
array=np.ones(10)
array=np.ones(10)*5
print("An array of 10 fives:") print(array)
```

An array of 10 fives:  
[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
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

Array of all the even integers from 20 to 35  
[20 22 24 26 28 30 32 34]

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

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

[[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)) print (c)
```

[1 2 3 4 5 6]

## Pandas

## 8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import pandas
data=[['ammu',40],['ravi',53],['sankar',
70]]
df=pd.DataFrame(data,columns=['Name','Age']) df
```

```

      Name  Age
0    ammu   40
1    ravi   53
2  sankar   70

```

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

```
import pandas as pd
from datetime import datetime
pd.date_range(start="2023-01-01",end="2023-02-01").to_pydatetime().tolist(
)
```

```
[datetime.datetime(2013, 1, 1, 0, 0),
 datetime.datetime(2013, 1, 2, 0, 0),
 datetime.datetime(2013, 1, 3, 0, 0),
 datetime.datetime(2013, 1, 4, 0, 0),
 datetime.datetime(2013, 1, 5, 0, 0),
 datetime.datetime(2013, 1, 6, 0, 0),
 datetime.datetime(2013, 1, 7, 0, 0),
 datetime.datetime(2013, 1, 8, 0, 0),
 datetime.datetime(2013, 1, 9, 0, 0),
 datetime.datetime(2013, 1, 10, 0, 0),
 datetime.datetime(2013, 1, 11, 0, 0),
 datetime.datetime(2013, 1, 12, 0, 0),
 datetime.datetime(2013, 1, 13, 0, 0),
 datetime.datetime(2013, 1, 14, 0, 0),
 datetime.datetime(2013, 1, 15, 0, 0),
 datetime.datetime(2013, 1, 16, 0, 0),
 datetime.datetime(2013, 1, 17, 0, 0),
 datetime.datetime(2013, 1, 18, 0, 0),
 datetime.datetime(2013, 1, 19, 0, 0),
 datetime.datetime(2013, 1, 20, 0, 0),
 datetime.datetime(2013, 1, 21, 0, 0),
```

```

import pandas
datetime.datetime(2021, 22, 0, 0),
3,
datetime.datetime(2021, 23, 0, 0),
3,
datetime.datetime(2021, 24, 0, 0),
3,
datetime.datetime(2021, 25, 0, 0),
3,
datetime.datetime(2021, 26, 0, 0),
3,
datetime.datetime(2021, 27, 0, 0),
3,
datetime.datetime(2021, 28, 0, 0),
3,
datetime.datetime(2021, 29, 0, 0),
3,
datetime.datetime(2021, 30, 0, 0),
3,
datetime.datetime(2021, 31, 0, 0),
3,
datetime.datetime(2022, 1, 0, 0)]
3,

```

## 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]]
```

```
import pandas
lists=[[1, 'aaa', 22],[2, 'bbb', 25],[3, 'ccc', 24]]
df=pd.DataFrame(lists, columns=['s.no', 'alphabet',
'number']) print(df)
```

	s.no	alphabet	number
	0	1	
	aaa		22
1	2	bbb	25
2	3	ccc	24