

Assignment -1
Basic Python Programming in ipynb

Assignment Date	13 September 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=12742  
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, 'hello']}]}  
  ]}  
  
d={ 'k1': [1,2,3,{'tricky': ['oh', 'man', 'inception', {'target': [1,2,3, 'hello']}  
  ]}] }  
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 as pd
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(2023, 1, 1, 0, 0),
 datetime.datetime(2023, 1, 2, 0, 0),
 datetime.datetime(2023, 1, 3, 0, 0),
 datetime.datetime(2023, 1, 4, 0, 0),
 datetime.datetime(2023, 1, 5, 0, 0),
 datetime.datetime(2023, 1, 6, 0, 0),
 datetime.datetime(2023, 1, 7, 0, 0),
 datetime.datetime(2023, 1, 8, 0, 0),
 datetime.datetime(2023, 1, 9, 0, 0),
 datetime.datetime(2023, 1, 10, 0, 0),
 datetime.datetime(2023, 1, 11, 0, 0),
 datetime.datetime(2023, 1, 12, 0, 0),
 datetime.datetime(2023, 1, 13, 0, 0),
 datetime.datetime(2023, 1, 14, 0, 0),
 datetime.datetime(2023, 1, 15, 0, 0),
 datetime.datetime(2023, 1, 16, 0, 0),
 datetime.datetime(2023, 1, 17, 0, 0),
 datetime.datetime(2023, 1, 18, 0, 0),
 datetime.datetime(2023, 1, 19, 0, 0),
 datetime.datetime(2023, 1, 20, 0, 0),
 datetime.datetime(2023, 1, 21, 0, 0),
 datetime.datetime(2023, 1, 22, 0, 0),
 datetime.datetime(2023, 1, 23, 0, 0),
 datetime.datetime(2023, 1, 24, 0, 0),
 datetime.datetime(2023, 1, 25, 0, 0),
 datetime.datetime(2023, 1, 26, 0, 0),
 datetime.datetime(2023, 1, 27, 0, 0),
 datetime.datetime(2023, 1, 28, 0, 0),
 datetime.datetime(2023, 1, 29, 0, 0),
 datetime.datetime(2023, 1, 30, 0, 0),
 datetime.datetime(2023, 1, 31, 0, 0),
 datetime.datetime(2023, 2, 1, 0, 0)]
```

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 as pd
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