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(1
0)
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','Ag
e']) 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(20  1, 1, 0, 0),
          23,
 datetime.datetime(202 1, 2, 0, 0),
           3,
 datetime.datetime(202 1, 3, 0, 0),
           3,
 datetime.datetime(202 1, 4, 0, 0),
           3,
 datetime.datetime(202 1, 5, 0, 0),
           3,
 datetime.datetime(202 1, 6, 0, 0),
           3,
 datetime.datetime(202 1, 7, 0, 0),
           3,
 datetime.datetime(202 1, 8, 0, 0),
           3,
 datetime.datetime(202 1, 9, 0, 0),
           3,
 datetime.datetime(202 1, 10  0, 0),
           3,              ,
 datetime.datetime(202 1, 11  0, 0),
           3,              ,
 datetime.datetime(202 1, 12  0, 0),
           3,              ,
 datetime.datetime(202 1, 13  0, 0),
           3,              ,
 datetime.datetime(202 1, 14  0, 0),
           3,              ,
 datetime.datetime(202 1, 15  0, 0),
           3,              ,
 datetime.datetime(202 1, 16  0, 0),
           3,              ,
 datetime.datetime(202 1, 17  0, 0),
           3,              ,
 datetime.datetime(202 1, 18  0, 0),
           3,              ,
 datetime.datetime(202 1, 19  0, 0),
           3,              ,
 datetime.datetime(202 1, 20  0, 0),
           3,              ,
 datetime.datetime(202 1, 21  0, 0),
           3,              ,
```

```
import pandas
datetime.datetime(202 1, 22  0, 0),
          3,              ,
datetime.datetime(202 1, 23  0, 0),
          3,              ,
datetime.datetime(202 1, 24  0, 0),
          3,              ,
datetime.datetime(202 1, 25  0, 0),
          3,              ,
datetime.datetime(202 1, 26  0, 0),
          3,              ,
datetime.datetime(202 1, 27  0, 0),
          3,              ,
datetime.datetime(202 1, 28  0, 0),
          3,              ,
datetime.datetime(202 1, 29  0, 0),
          3,              ,
datetime.datetime(202 1, 30  0, 0),
          3,              ,
datetime.datetime(202 1, 31  0, 0),
          3,              ,
datetime.datetime(202 2, 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
```