Assignment -1

Python Programming

Assignment Date	9 September 2022
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Maximum Marks	2 Marks

Basic Python

Question-1:

Split this string:

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

Solution:

```
print(s.split())
```

Question-2:

Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

Solution:

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

Output should be: The diameter of Earth is 12742 kilometers.

```
[4] planet = "Earth"
    diameter = 12742

print ("the diameter of {} is {} kilometers.".format(planet,diameter))

the diameter of Earth is 12742 kilometers.
```

Question-3:

In this nest dictionary grab the word "hello"

Solution:

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]} d['k1'][3]['tricky'][3]['target'][3]
```

3. In this nest dictionary grab the word "hello"

```
[6] 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
```

Question-4:

4.1 Create an array of 10 zeros?

Solution:

```
array1=np.zeros(10) print(array1)
```

```
array1=np.zeros(10)
print(array1)

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

4.2 Create an array of 10 fives?

Solution:

```
array2=np.ones(10)*5  print(array2)
```

```
array2=np.ones(10)*5
print(array2)
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

Question-5:

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

Solution:

```
array3=np.arange(20,35,2) print(array3)
```

```
array3=np.arange(20,35,2)
print(array3)
```

```
[20 22 24 26 28 30 32 34]
```

Question-6:

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

Solution:

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

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

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

Question-7:

Concatenate a and b
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

Solution:

```
a=np.array([1,2,3]) b=np.array([4,5,6])
c=np.concatenate((a,b)) c
d=np.concatenate((a,b),axis=0,out=None) print
(d)
```

```
a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b))
c
d=np.concatenate((a,b),axis=0,out=None)
print (d)
```

```
[1 2 3 4 5 6]
```

Pandas

```
import pandas as pd
```

Question-8:

Create a dataframe with 3 rows and 2 columns **Solution:**

```
data=[['xxx',1],['yyy',2],['zzz',3]] df=
pd.DataFrame(data,columns=['name','number']) df
```

```
data=[['xxx',1],['yyy',2],['zzz',3]]
df= pd.DataFrame(data,columns=['name','number'])
df
```

	name	number
0	xxx	1
1	yyy	2
2	zzz	3

Question-9:

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023 **Solution:**

```
sd=pd.date_range(start='1-1-2023',end='10-02-2023') print (s
```

```
sd=pd.date_range(start='1-1-2023',end='10-02-2023')
print (sd)
```

```
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10',
               ...
               '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',
               '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',
               '2023-10-01', '2023-10-02'],
              dtype='datetime64[ns]', length=275, freq='D')
```

Question-10:

Create 2D list to DataFrame lists = [[1, 'aaa',

22], [2, 'bbb', 25], [3, 'ccc', 24]]

Solution:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(lists,columns=['sno','name','age']) print
(df)
```

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

```
df=pd.DataFrame(lists,columns=['sno','name','age'])
print (df)
```

```
   sno name  age
0    1  aaa   22
1    2  bbb   25
2    3  ccc   24
```