Assignment -1

Python Programming

Assignment Date	14 September 2022
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Maximum Marks	2 Marks

Question-1:

Split this string

Solution:

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

OUTPUT:

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

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

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:

```
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']}]}]}
a=(d['k1'][3]["tricky"][3]['target'][3])
print(a)
```

OUTPUT:

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

```
hello
```

Question-4:

NUMPY

4.1- Create an array of 10 zeros?

Solution:

```
import numpy as np

array=np.zeros(10)

print(array)
```

OUTPUT:

```
import numpy as np
array=np.zeros(10)
print(array)
```

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

4.2 Create an array of 10 fives?

Solution:

```
import numpy as np

array=np.ones(10)*5

print(array)
```

OUTPUT:

```
import numpy as np
array=np.ones(10)*5
print(array)
```

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

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

Solution:

import numpy as np

array=np.arange(20,36,2)

print(array)

OUTPUT:

```
import numpy as np
array=np.arange(20,36,2)
print(array)
```

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

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

Solution:

import numpy as np

x=np.arange(0,9).reshape(3,3)

print(x)

OUTPUT:

```
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])

Solution:

import numpy as np

a = np.array([1, 2, 3])

b = np.array([4, 5, 6])

c=np.concatenate((a,b))

print(c)

OUTPUT:

```
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

Solution:

```
import pandas as pd
```

```
data=[[10,20],[30,40],[50,60]]
df=pd.DataFrame(data,index=[1,2,3],columns=[1,2
])
print(df)
```

OUTPUT:

```
import pandas as pd
data=[[10,20],[30,40],[50,60]]
df=pd.DataFrame(data,index=[1,2,3],columns=[1,2])
print(df)
```

```
    1   2
1  10  20
2  30  40
3  50  60
```

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

Solution:

```
import pandas as pd

series=pd.date_range(start='1-1-2023',end='2-
10-2023')

for v in series:

   print(v)
```

OUTPUT:

```
import pandas as pd
series=pd.date_range(start='1-1-2023',end='2-10-2023')
for v in series:
  print(v)
```

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
2023-01-10 00:00:00
2023-01-11 00:00:00
2023-01-12 00:00:00
2023-01-13 00:00:00
2023-01-14 00:00:00
2023-01-15 00:00:00
2023-01-16 00:00:00
2023-01-17 00:00:00
2023-01-18 00:00:00
2023-01-19 00:00:00
2023-01-20 00:00:00
2023-01-21 00:00:00
2023-01-22 00:00:00
2023-01-23 00:00:00
2023-01-24 00:00:00
2023-01-25 00:00:00
2023-01-26 00:00:00
2023-01-27 00:00:00
2023-01-28 00:00:00
2023-01-29 00:00:00
2023-01-30 00:00:00
2023-01-31 00:00:00
2023-02-01 00:00:00
2023-02-02 00:00:00
2023-02-03 00:00:00
2023-02-04 00:00:00
2023-02-05 00:00:00
2023-02-06 00:00:00
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

Solution:

import pandas as pd

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

```
for i in lists:
  i.remove(i[0])
```

```
index=[]
for i in range(1,len(lists)+1):
  index.append(i)
columns=[]
for i in range(1,len(lists[0])+1):
  columns.append(i)
a=pd.DataFrame(lists,index,columns)
print(a)
```

OUTPUT:

```
import pandas as pd
lists=[[1,'aaa',22],[2,'bbb',25],[3,'ccc',24]]
for i in lists:
  i.remove(i[0])
index=[]
for i in range(1,len(lists)+1):
  index.append(i)
columns=[]
for i in range(1,len(lists[0])+1):
  columns.append(i)
a=pd.DataFrame(lists,index,columns)
print(a)
```

```
     1   2
1  aaa  22
2  bbb  25
3  ccc  24
```