Assignment -1

Python Programming

Assignment Date	19 September 2022
Student Name	AKASHRAM J
Student Roll Number	2019115011
Maximum Marks	2 Marks

Question-1:

Split this string

s = "Hi there Sam!"

Solution:

```
s1=s.split()

print(s1)
```

Output:

1. Split this string

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

Python

```
s1=s.split()
print(s1)
```

Python

```
['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:

```
[1] 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']}]}]}
print(d["k1"][3]["tricky"][3]["target"][3])
```

Output:

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

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

    print(d["k1"][3]["tricky"][3]["target"][3])
                                                                                    Python

    hello
```

Question-4:
4.1 Create an array of 10 zeros?
Solution:

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

Output:

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

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

4.2 Create an array of 10 fives?
Solution:

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

print(array)

Output:

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

Python

```
An array of 10 fives:
[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:

import numpy **as** np

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

print("Array of all the even integers from 30 to 70")

print(array)

Output:

```
import numpy as np
array=np.arange(20,36,2)
print("Array of all the even integers from 30 to 70")
print(array)
```

Python

```
Array of all the even integers from 30 to 70
[20 22 24 26 28 30 32 34]
```

Question-6:
Create a 3x3 matrix with values ranging from 0 to 8
Solution:
np**.**arange(9)**.**reshape(3,3)

Output:

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

```
np.arange(9).reshape(3,3)
```

Python

```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

Question-7:

Concatinate 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])

gfg = np.concatenate((a, b), axis = 0)

print (gfg)
```

Output:

7. Concatinate 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])

gfg = np.concatenate((a, b), axis = 0)

print (gfg)
```

Python

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

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
data = [['tom', 10], ['nick', 15], ['juli', 14]]
 # Create the pandas DataFramedf = pd.DataFrame(data, columns=['Name', 'Age'])
 # print dataframe.print(df)
```

Output:

Pandas

8. Create a dataframe with 3 rows and 2 columns

```python
import pandas as pd
```

```python
data = [['tom', 10], ['nick', 15], ['juli', 14]]

# Create the pandas DataFrame
df = pd.DataFrame(data, columns=['Name', 'Age'])

# print dataframe.
print(df)
```

```
   Name  Age
0   tom   10
1  nick   15
2  juli   14
```

Question-9:
Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023
Solution:

```
dates = pd.date_range(start="1-1-2023", end="10-2-2023")

for i in dates:
  print(i)
```

Output:

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

```
dates = pd.date_range(start="1-1-2023", end="10-2-2023")
for i in dates:
  print(i)
```

Python

```
Output exceeds the size limit. Open the full output data in a text editor
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
```

```
2023-01-05 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
...
2023-09-29 00:00:00
2023-09-30 00:00:00
2023-10-01 00:00:00
2023-10-02 00:00:00
```

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]]
df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
```

Output:

10. Create 2D list to DataFrame

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

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

Python

```python
df1=pd.DataFrame(lists, columns=['col1', 'col2', 'col3'])
print(df1)
```

Python

```
   col1 col2  col3
0     1  aaa    22
1     2  bbb    25
2     3  ccc    24
```