Assignment -1

Python Programming

Assignment Date	10 September 2022
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Student Roll Number	511919104025
Maximum Marks	2 Marks

Basic Python

Question-1:

- Split this string

s = "Hi there Sam!"

Solution:

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

Output:

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

Question-2:

- Use .format() to print the following string.

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

```
planet = "Earth"
diameter = 12742
```

Solution:

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

Output:

```
The diameter of Earth is 12742 kilometers.
```

Question-3:

- In this nest dictionary grab the word "hello"

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

```
hello
```

Numpy

Question-4:

import numpy as np

- Create an array of 10 zeros?

Solution:

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

Output:

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

- Create an array of 10 fives?

Solution:

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

Output:

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

Question-5:

import numpy as np

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

Solution:

```
import numpy as np
a=np.arange(20,35,2)
print(a)
```

Output:

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

Question-6:

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

Solution:

```
import numpy as np
a = np.arange(0, 9).reshape(3,3)
print(a)
```

Output:

```
[[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:

```
import numpy as np a
= np.array([1, 2, 3])
b = np.array([4, 5, 6])
c = np.concatenate((a, b), axis=0)
print(c)
```

Output:

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

Question-8:

Pandas

- Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
data = {'Name': ['san', 'wes', 'yashi'], 'Age': [20, 21, 19]}
df = pd.DataFrame(data)
print(df)
```

Output:

```
   Name  Age
0  san    20
1  wes    21
2  yashi  19
```

Question-9:

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

Solution:

```
import pandas as pd
a = pd.date_range(start='1/1/2023', end='10/02/2023')
print(a)
```

```
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')
```

Output:

Question-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]]

a = pd.DataFrame(lists, columns =['Sl.no', 'Name', 'Age'])

print(a)
```

```
   Sl.no Name  Age
0      1  aaa   22
1      2  bbb   25
2      3  ccc   24
```

Output: