Assignment -1

Python Programming

Assignment Date	08 September 2022
Student Name	Swati S
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Maximum Marks	2 Marks

Basic Python

1. Split this string

In [10]:
```
s = "Hi there Sam!"
```

In [11]:
```
print(s.split())
```

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

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

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

In [2]:
```
planet = "Earth"
diameter = 12742
```

In [9]:
```
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"

In [21]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [22]:
```
d['k1'][3]['tricky'][3]['target'][3]
```

Out[22]:
```
'hello'
```

Numpy

In [25]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [29]:
```
a0=np.zeros(10,int)
a0
```

Out[29]:
```
array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0])
```

In [39]:
```
a5=np.array([5,5,5,5,5,5,5,5,5,5])
a5
```

Out[39]:
```
array([5, 5, 5, 5, 5, 5, 5, 5, 5, 5])
```

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

In [42]:
```
for i in range (20,35):
    if i%2==0:
        print(i)
```

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

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

In [44]:
```
mat3= np.array([[0,1,2],[3,4,5],[6,7,8]])
mat3
```

Out[44]:
```
array([[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])

In [56]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
[*a,*b]
```

Out[56]:
```
[1, 2, 3, 4, 5, 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [61]:
```
import pandas as pd
```

In [63]:
```
dictn={'Name':['john','david','maria'],'Age':[10,23,24]}
```

In [69]:
```
data=pd.DataFrame({'Name':['john','david','maria'],'Age':[10,23,24]})
data
```

Out[69]:

	Name	Age
0	john	10
1	david	23
2	maria	24

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

In [88]:
```
import datetime
start = datetime.date(2023,1,1)
k= 41
res = []

for day in range(k):
        date = (start + datetime.timedelta(days = day)).isoformat()
        res.append(date)

print("Next K dates list: " + str(res))
```

```
Next K dates list: ['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', '2023-01-11', '2023-01-12', '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16', '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20', '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24', '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28', '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01', '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05', '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09', '2023-02-10']
```

10. Create 2D list to DataFrame

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

In [79]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [81]:
```
dt=pd.DataFrame(lists)
dt
```

Out[81]:

	0	1	2
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24