Assignment-1

Assignment Date	**02 September 2022**
Student Name	**VIGNESH K**
Student Roll Number	**921319104220**
Maximum Marks	**2 marks**

Basic Python

1. Split this string

In [2]:
```
s = "Hi there Sam!"
```

In [3]:
```
x=s.split()
```

In [ ]:
```

```

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

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

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

In [5]:
```
print("The diameter of Earth is {} kilometers".format(12742))
```

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

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

In [6]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}
```

In [7]:
```
d['k1'][3]['tricky'][3]['target'][3]
```

Out[7]:
```
'hello'
```

Numpy

In [8]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [9]:
```
np.zeros(10)
```

Out[9]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [10]:
```
np.ones(10)*5
```

Out[10]:
```
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 [17]:
```
np.arange(20,36,2)
```

Out[17]:
```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

In [24]:
```
np.arange(0,9).reshape((3,3))
```

Out[24]:
```
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 [19]:
```
a=np.array([1,2,3])
```

In [20]:
```
b=np.array([4,5,6])
```

In [21]:
```
np.concatenate((a,b),axis=None)
```

Out[21]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [25]:
```
import pandas as pd
```

In [26]:
```
data = {"Roll-num": [10,20,30], "Age":[12,14,13]}
block = pd.DataFrame(data)
```

In [27]:
```
block = pd.DataFrame(data)
```

In [28]:
```
print("Original Data frame:\n")
print(block)
```

```
Original Data frame:

   Roll-num  Age
```

```
0         10    12
1         20    14
2         30    13
```

In [ ]:

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

In [29]:
```
from datetime import timedelta, date
```

In [30]:
```
def daterange(date1, date2):
    for n in range(int ((date2 - date1).days)+1):
        yield date1 + timedelta(n)
```

In [31]:
```
start_dt = date(2023, 1, 1)
end_dt = date(2023, 2, 10)
```

In [32]:
```
for dt in daterange(start_dt, end_dt):
    print(dt.strftime("%Y-%m-%d"))
```

```
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
```

In [ ]:

10. Create 2D list to DataFrame

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

In [40]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [42]:
```
df=pd.DataFrame.from_records(lists)
```

Out[42]:

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

In [ ]: