Basic Python

1. Split this string

In [20]:
```
s = "Hi there Sam!"
```

In [21]:
```
s.split()
```

Out[21]:
```
['Hi', 'there', 'Sam!']
```

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

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

In [22]:
```
planet = "Earth"
diameter = 12742
```

In [23]:
```
print('diameter of {} is {} kilometers.' .format(planet,diameter));
```

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

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

In [24]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

In [25]:
```
d['k1'][3]['tricky'][3]['target'][3]
```

Out[25]:
```
'hello'
```

Numpy

In [26]:
```
import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [27]:
```
np.zeros(10)
```

Out[27]:
```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

In [28]:
```
np.ones(10)*5
```

Out[28]:
```
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 [31]:
```
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

```
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

In [32]:
```
np.arange(0,9).reshape((3,3))
```

Out[32]:
```
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 [33]:
```
a=np.array([1,2,3])
b=np.array([4,5,6])
np.concatenate((a,b))
```

Out[33]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [37]:
```
import pandas as pd
data = {
    "Openings": [100, 75, 50],
    "Eligibility": [50, 27, 13]
}
#Load a data into the DataFrame Object:
df=pd.DataFrame(data)
print(df)
```

```
   Openings  Eligibility
0       100           50
1        75           27
2        50           13
```

In [ ]:
```

```

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

In [46]:
```
per1 = pd.date_range(start = '01-01-2023' ,end = '02-10-2023')
for val in per1:
 print(val)
```

```
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]]

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

In [47]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df =pd.DataFrame(lists)
print(df)
```

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

In [ ]:
```

```