Basic python

1. Split this string

In [1]:
```
s = "Hi there sam!
```

In [2]:
```
S = "Hi there sam!"
x=s.split()
print(x)
```

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

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

Output should be: The diameter of earth is 12742 kilometers

In [7]:
```
planet = "Earth"
diameter = 12742
```

In [8]:
```
planet = "Earth"
diameter = "12742"
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 [ ]:
```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

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

Out[6]:
```
'hello'
```

Numpy

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

4.1 Creat an array of 10 zeros?

In [9]:
```
import numpy as np
array=np.zeros(10)
print("An array of two zeros:")
print(array)
```

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

4.2 Create an array of 10 fives?

In [10]:
```
import numpy as np
array=np.ones(10)*5
print("An array of ten fives:")
print(array)
```

```
An array of ten fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

In [17]:
```
np.arange(20,35,2)
```

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

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

In [13]:
```
np.arange(0,9).reshape(3,3)
```

Out[13]:
```
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])
b = np.array([4,5,6])
np.concatenate((a,b),axis=0)
```

Out[19]:
```
array([1, 2, 3, 4, 5, 6])
```

Pandas

8.Create a dataframe with 3 rows and 2 columns

import pandas as pd

In [22]:
```
import pandas as pd
temp = {"project_num":["No.1","No.2","No.3",],"status":["Doing","Done","Ready"]}
pd.DataFrame(temp)
```

Out[22]:

	project_num	status
0	No.1	Doing
1	No.2	Done
2	No.3	Ready

9.Generate the series of datas from 1st jan,2023 to 10th feb 2023

In [23]:
```
pd.date_range(start="2023-01-01",end="2023-02-03")
```

Out[23]:
```
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', '2023-01-11', '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'],
              dtype='datetime64[ns]', freq='D')
```

10.Create 2D list to DataFrame

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

In [29]:
```
lists = [[1,'aaa',22], [2,'bbb',25], [3,'ccc',24]]
ds=pd.DataFrame(lists)
print(ds)
```

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

In [ ]:

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