Basic Python

1. Split this string

```
s = "Hi there Sam!"
```

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

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

italicized text## 2. Use .format() to print the following string.

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

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

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

```
The diameter ofEarth is 12742 kilometer.
```

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

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

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':
[1,2,3,'hello']}]}]}
print(d['k1'][3]["tricky"][3]['target'][3])
```

```
hello
```

```
import numpy as np
```

Numpy

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)
```

```
An array of 10 zeros:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
import numpy as np
array=np.ones(10)*5
print("An array of 10 fives")
print(array)
```

```
An array of 10 fives
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
import numpy as np
array=np.arange(20,36,2)
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

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

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7. Concatinate a and b

a = np.array([1, 2, 3]), b = np.array([4, 5, 6])

```
import numpy as np
a =np.array([[1,2,3]])

print 'First array:'
print a
print '\n'
b = np.array([[4,5,6]])

print 'Second array:'
print b
print '\n'


print 'Joining the two arrays along axis 0:'
print np.concatenate((a,b))
print '\n'


print 'Joining the two arrays along axis 1:'
print np.concatenate((a,b),axis =1)
```

```
  Input In [37]
    print 'First array:'
          ^
SyntaxError: Missing parentheses in call to 'print'. Did you mean
print('First array:')?
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

```
     Name  Age
0     Tom   20
1  Joseph   21
2    jhon   19
```

```
import pandas as pd
data = {'Place':['Salem','Chennai','Thenkasi'],'Kilometers':
[170,850,320]}
df = pd.DataFrame(data)
print(df)
```

```
      Place  Kilometers
0     Salem         170
1   Chennai         850
2  Thenkasi         320
```

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

```
import pandas as pd
pd.date_range("01-01-2021","10-02-2023")
```

```
DatetimeIndex(['2021-01-01', '2021-01-02', '2021-01-03', '2021-01-04',
               '2021-01-05', '2021-01-06', '2021-01-07', '2021-01-08',
               '2021-01-09', '2021-01-10',
               ...
               '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=1005, freq='D')
```

10. Create 2D list to DataFrame

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

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

```
import pandas as pd
lst=[['aaa',22],['bbb',25],['ccc',24]]
df = pd.DataFrame(lst,columns =['Tag','Number'])
print(df)
```

```
   Tag  Number
0  aaa      22
1  bbb      25
2  ccc      24
```