Basic Python

1. Split this string

In [ ]:

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

In [ ]:

```
text = "Hi there Sam!" x
= text.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 [ ]:

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

In [ ]:

```
txt = "The diameter of Earth is {diameter:}
```

```
Kilometers"
print(txt.format(diamet
er = 12742))
```

```
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 [ ]:

```
d['k1'][3]['tricky'][3]
['target'][3]
```

Out[ ]:

'hello'

Numpy

In [ ]:

import numpy as np

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [ ]:

```
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.]

In [ ]:

```
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

In [ ]:

```
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

In [ ]:

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

```
[[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 [ ]:

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

Out[ ]:

array([1, 2, 3, 4, 5, 6])

Pandas

8. Create a dataframe with 3 rows and 2 columns

In [2]:

```
import pandas as pd
```

In [ ]:

```
data = [[0,1], [2,3],
[4,5]] df =
pd.DataFrame (data) df
```

Out[ ]:

```
01001123245
```

9. Generate the series of dates

from 1st Jan, 2023 to 10th Feb, 2023

In [ ]:

```
ser = pd.date_range(start ='1-1-2023', end ='2-10-2023') for val in ser: 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]]
```