Basic Python

1. Split this string

[ ]

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

[ ]

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

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 Earth is {0} kilometers".format(diameter))
```

The diameter of Earth is 12742 kilometers

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

Numpy

[ ]

```
import numpy as np
```

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(array)
```

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

[ ]

```
import numpy as np
array = np.arange(20,35,2)
print(array)
```

[20 22 24 26 28 30 32 34]

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

[ ]

```
import numpy as np
array = np.arange(20,35,2)
```

```
print(array)
[20 22 24 26 28 30 32 34]
6. Create a 3x3 matrix with values ranging from 0 to 8
[ ]

import numpy as np
array=np.ones(10)*5
print(array)
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
7. Concatenate 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])
b = np.array([4, 5, 6])
np.concatenate((a,b),axis=0)
array([1, 2, 3, 4, 5, 6])
Pandas
8. Create a dataframe with 3 rows and 2 columns
[ ]
import pandas as pd
[ ]
import pandas as pd
data = [['tom', 10], ['nick', 15], ['juli', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
print(df)
  Name Age
0 tom 10
1 nick 15
2 juli 14
9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023
[ ]
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns = ['roll_no', 'alpha','reg_no'])
print(df)
  roll_no alpha reg_no
0 1 aaa 22
1 2 bbb 25
2 3 ccc 24
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
per1 = pd.date_range(start ='1-1-2023',
      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
```