1. Split this string

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

Basic Python

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

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

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
a='The diameter of {} is {} kilometers' .format(planet,diameter)
print(a)
```

```
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']}]}]}
a=d['k1'][3]['tricky'][3]['target'][3]
print(a)
```

```
hello
```

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
arr = np.zeros(10)
print(arr)
```

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

```
import numpy as np
arr = np.zeros(10)+5
print(arr)
```

```
[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(20,35,2)
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

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

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])
c = np.concatenate((a, b), axis = None)
print (c)
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
```

```
import pandas as pd
a=[12,13,14]
df = pd.DataFrame(a, columns=['Numbers'])
print(df)
```

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

```
import pandas as pd
p= pd.date_range(start ='1-1-2023',
       end ='2-10-2023' ,freq ='24H')
for val in p:
 print(val)
```

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
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns =['ID', 'Name', 'Age'],)
dtype = int
print(df)
```

Colab paid products - Cancel contracts here