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# -*- coding: utf-8 -*-
"""Assignment_1.ipynb

Automatically generated by Colaboratory.

Original file is located at
    https://colab.research.google.com/drive/1aWqhkVA1HUMnJ87bpk2QQB97yvcdjNul

# Basic Python

## 1. Split this string
"""

s = "Hi there Sam!"

s.split()

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

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

planet = "Earth"
diameter = 12742

print('The diameter of {} is {} kilometers.' . format(planet,diameter));

"""## 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'][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?
"""

a = np.zeros(10)
a

b = np.ones(10)*5
b

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

S = np.arange(20,35,2)
S

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

a = np.arange(0,9).reshape(3,3)
```

```
a

"""## 7. Concatenate a and b
## a = np.array([1, 2, 3]), b = np.array([4, 5, 6])
"""

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

"""# Pandas

## 8. Create a dataframe with 3 rows and 2 columns
"""

import pandas as pd

a = {"names":["Sukumar","Chetan","Vivek","Bhargav"],"age":[20,21,20,20]}
b = pd.DataFrame(a)
b

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

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

e = pd.DataFrame(lists)
e
```