**Assignment -1**

PYTHON

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| Assignment Date | 15 september 2022 |
| Student Name | Mathimithran.T |
| Student Roll Number | 310819104711 |
| Maximum Marks | 2 Marks |

# Basic Python

## 1. Split this string

s = "Hi there Sam!"

s.split()

['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

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

print(d['k1'][3]["tricky"][3]['target'][3])

hello

# Numpy

import numpy as np

## 4.1 Create an array of 10 zeros?

## 4.2 Create an array of 10 fives?

array=np.zeros(10)  
array

array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

array=np.ones(10)\*5  
array

array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])

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

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

array([20, 22, 24, 26, 28, 30, 32, 34])

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

matrix=np.arange(0,9).reshape(3,3)  
matrix

array([[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])

a = np.array([1, 2, 3])   
b = np.array([4, 5, 6])  
ab=np.concatenate((a,b),axis=0)  
ab

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

# Pandas

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

import pandas as pd

data = [['vb', 10], ['hari', 15], ['prasath', 14]]  
df = pd.DataFrame(data, columns=['Name', 'Age'])  
df

Name Age  
0 vb 10  
1 hari 15  
2 prasath 14

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

per1 = pd.date\_range(start ='01-01-2023',   
 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

## 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]]

df = pd.DataFrame(lists, columns = ['s.no','name','Age'])  
print(df )

s.no name Age  
0 1 aaa 22  
1 2 bbb 25  
2 3 ccc 24