# Assignment-1

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| Assignment Date | 17 September 2022 |
| Team ID | PNT2022TMID45005 |
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| Student Roll Number | 811219205002 |
| Project Name | AI Based Discourse For Banking Industry |
| Maximum Marks | 2 Marks |

# Basic Python

## Split this string

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

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

## 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.

## 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']}]}]}

g=d['k1'][3]['tricky'][3]['target'][3] print(g)

hello

# Numpy

import numpy as np

## Create an array of 10 zeros?

* 1. **Create an array of 10 fives?**

*#An array of 10 zeros*

np.zeros(10)

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

*#An array of 10 fives*

np.ones(10)\*5

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

# or

a=np.zeros(10) b=np.ones(10)\*5

print("An array of 10 zeros is {}".format(a)) print("An array of 10 fives is {}".format(b))

An array of 10 zeros is [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

An array of 10 fives is [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

np.arange(20,35,2,dtype=int) array([20, 22, 24, 26, 28, 30, 32, 34])

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

import numpy as np e=np.arange(9) f=e.reshape(3,3)

print("A 3x3 matrix with values ranging from 0 to 8 is given below") print("{}".format(f))

A 3x3 matrix with values ranging from 0 to 8 is given below [[0 1 2]

[3 4 5]

[6 7 8]]

## Concatinate a and b

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

import numpy as pd a=np.array([1,2,3])

b=np.array([4,5,6]) cc=np.concatenate((a,b),axis=0) print("Concatination of a and b is {}".format(cc))

Concatination of a and b is [1 2 3 4 5 6]

# Pandas

## Create a dataframe with 3 rows and 2 columns

import pandas as pd d=np.arange(6).reshape(3,2) c=['1','2'] r=['1','2','3']

dataframe=pd.DataFrame(data=d,index=r,columns=c)

print("A datafram with 3 rows and 2 columns is given below") print("{}".format(dataframe))

A datafram with 3 rows and 2 columns is given below 1 2

1 0 1

2 2 3

3 4 5

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

import pandas as pd pd.date\_range(start='1st/jan/2023',end='10th/feb/2023',inclusive='both ')

DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',

'2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',

'2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',

'2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',

'2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',

'2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',

'2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',

'2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',

'2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',

'2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',

'2023-02-10'],

dtype='datetime64[ns]', freq='D')

## Create 2D list to DataFrame

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=['S/No','Name','Rollno']) print(df)

S/No Name Rollno 0 1 aaa 22

1 2 bbb 25

2 3 ccc 24