**ASSIGNMENT-1**

**EMERGING METHODS FOR EARLY**

**DETECTION OF FOREST FIRES**

| Student name | delber |
| --- | --- |
| Student reg. no | **961819104028** |
| Team ID | PNT2022TMID34407 |
| Maximum Mark | **2** mark |

# Basic Python

## 1. Split this string

s = "Hi there Sam!"

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

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':[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)

import numpy as np

array=np.ones(10)\*5

print(array)

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

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

print(array)

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

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

print(arr)

## 7. Concatinate 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

import numpy as np

exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19]}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']

df = pd.DataFrame(exam\_data , index=labels)

print("First three rows of the data frame:")

print(df.iloc[:3])

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

from datetime import date, timedelta

start\_date = date (2023,1,1) # start date

end\_date = date (2023,2,10) # end date

def dates\_bwn\_twodates(start\_date, end\_date):

for n in range(int ((end\_date - start\_date).days)):

yield start\_date + timedelta(n)

print(list(dates\_bwn\_twodates(start\_date,end\_date)))

## 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

# List1

lst = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]

# creating df object with columns specified

df = pd.DataFrame(lst, columns =['Firstnum', 'Letter', 'Lastnum'],

dtype = float)

print(df )

submitted by,

delber

961819104028