ASSIGNMENT-1

EMERGING METHODS FOR EARLY

DETECTION OF FOREST FIRES

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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)

```python
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

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

print(array)
```

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

```python
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])

```python
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

```python
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']
```

```python
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

```python
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

```python
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
```

```python
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,

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