VSB Engineering College, Karur-639111

Department of Electronics and Communication Engineering

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AI - Assignment

Topic : AI-powered Nutrition Analyzer for Fitness Enthusiasts

Name: Poovarasan M

code:

1. Split this string

s = "Hi there Sam!"

```
s = "Hi there Sam!"
print(s)
x = s.split(' ')
print(x)
```

Hi there Sam!

['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
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']}]}]
}

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?

import numpy as np

array=np.zeros(10)

print("An array of 10 zeros:")

print(array)

An array of 10 zeros:

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
import numpy as np
array=np.ones(10)
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```

An array of 10 fives:

[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]

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

```
import numpy as np
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

Array of all the even integers from 20 to 35

[20 22 24 26 28 30 32 34]

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

```
import numpy as np
x =  np.arange(0, 9).reshape(3,3)
print(x)
```

[[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])

import numpy as np

a = np.array([1,2,3])

b = np.array([4,5,6])

c = np.concatenate((a,b))

print (c)

[1 2 3 4 5 6]

Pandas

8. Create a dataframe with 3 rows and 2 columns

import pandas as pd

import pandas as pd

data = [['sasi', 60], ['nithin', 36], ['prassana', 44]]

df = pd.DataFrame(data, columns=['Name', 'Age'])

df

Name Age

0 sasi 60

1 nithin 36

2 prassana 44

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

import pandas as pd

from datetime import datetime

pd.date_range(start="2023-01-01",end="2023-02-10").to_pydatetime().tolist()

[datetime.datetime(2023, 1, 1, 0, 0),

datetime.datetime(2023, 1, 2, 0, 0),

datetime.datetime(2023, 1, 3, 0, 0),

datetime.datetime(2023, 1, 4, 0, 0),

datetime.datetime(2023, 1, 5, 0, 0),

datetime.datetime(2023, 1, 6, 0, 0),

datetime.datetime(2023, 1, 7, 0, 0),

datetime.datetime(2023, 1, 8, 0, 0),

datetime.datetime(2023, 1, 9, 0, 0),

datetime.datetime(2023, 1, 10, 0, 0),

datetime.datetime(2023, 1, 11, 0, 0),

datetime.datetime(2023, 1, 12, 0, 0),

datetime.datetime(2023, 1, 13, 0, 0),

datetime.datetime(2023, 1, 14, 0, 0),

datetime.datetime(2023, 1, 15, 0, 0),

datetime.datetime(2023, 1, 16, 0, 0),

datetime.datetime(2023, 1, 17, 0, 0),

datetime.datetime(2023, 1, 18, 0, 0),

datetime.datetime(2023, 1, 19, 0, 0),

datetime.datetime(2023, 1, 20, 0, 0),

datetime.datetime(2023, 1, 21, 0, 0),

datetime.datetime(2023, 1, 22, 0, 0),

datetime.datetime(2023, 1, 23, 0, 0),

datetime.datetime(2023, 1, 24, 0, 0),

datetime.datetime(2023, 1, 25, 0, 0),

datetime.datetime(2023, 1, 26, 0, 0),

datetime.datetime(2023, 1, 27, 0, 0),

datetime.datetime(2023, 1, 28, 0, 0),

datetime.datetime(2023, 1, 29, 0, 0),

datetime.datetime(2023, 1, 30, 0, 0),

datetime.datetime(2023, 1, 31, 0, 0),

datetime.datetime(2023, 2, 1, 0, 0),

datetime.datetime(2023, 2, 2, 0, 0),

datetime.datetime(2023, 2, 3, 0, 0),

datetime.datetime(2023, 2, 4, 0, 0),

datetime.datetime(2023, 2, 5, 0, 0),

datetime.datetime(2023, 2, 6, 0, 0),

datetime.datetime(2023, 2, 7, 0, 0),

datetime.datetime(2023, 2, 8, 0, 0),

datetime.datetime(2023, 2, 9, 0, 0),

datetime.datetime(2023, 2, 10, 0, 0)]

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
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns =['s.no', 'alphabet', 'number'])
print(df)
```

```
   s.no alphabet  number
0     1      aaa      22
1     2      bbb      25
2     3      ccc      24
```