

ASSIGNMENT1

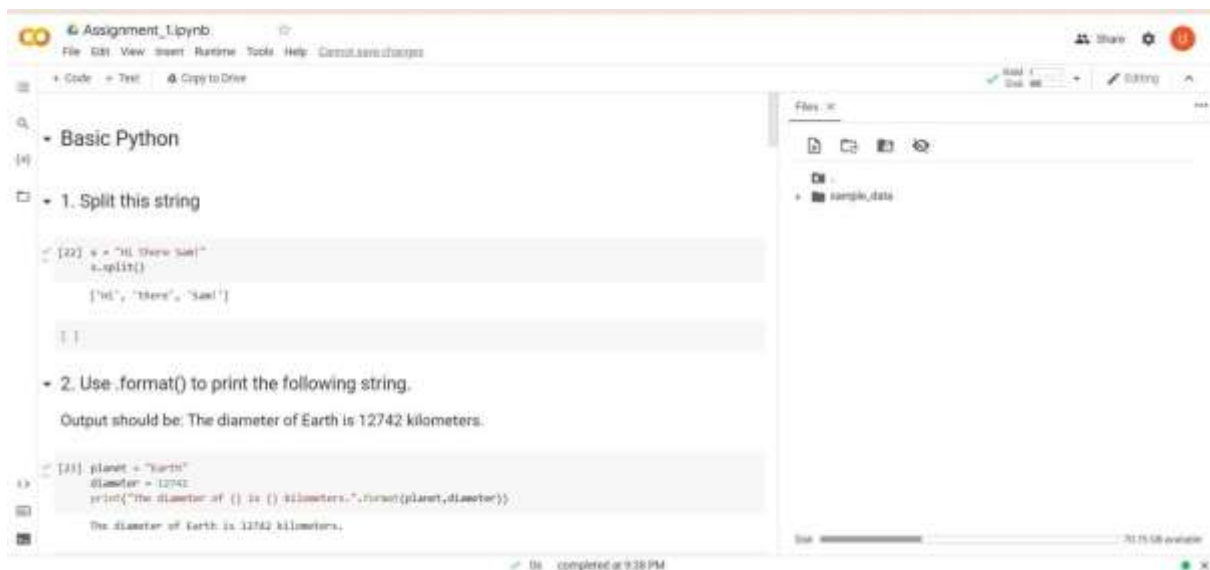
Date : 11 October 2022

Team ID : G.DHIVYA

Project Name : A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

Maximum Marks : 2 Marks

Basic Python Program:



```
Assignment_1.ipynb
File Edit View Insert Runtime Tools Help Console/Output/Errors
+ Code + Text Copy to Drive

Basic Python
1. Split this string

[22]: 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.

[23]: planet = "Earth"
      diameter = 12742
      print("The diameter of {} is {} kilometers.".format(planet,diameter))

      The diameter of Earth is 12742 kilometers.

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```

The screenshot shows a JupyterLab window titled "Assignment_1.ipynb". The interface includes a top menu bar with options like File, Edit, View, Insert, Runtime, Tools, and Help. Below the menu bar, there are tabs for "+ Code", "+ Text", and "Copy to Drive". The main area is a code editor displaying a Jupyter Notebook cell with the following code:

```
[14]: d = {'k1': {'l1': 5, 'l2': {'tricky': {'on': 'won', 'inception': ['target': [1, 1, 1, 'hello']]}]}},
      4: {'k1': {'l1': {'tricky': {'l1': {'target': [1]}}}}

      'hello'

      ]
      ]
```

Below the code editor, there are two more cells with the following text:

- Numpy
- 4.1 Create an array of 10 zeros?
- 4.2 Create an array of 10 fives?

The bottom of the window shows a status bar with the text "In [15]: import numpy as np; array=np.zeros(10); print('an array of 10 zeros'); print(array)". The right sidebar contains a file browser showing a folder named "sample_data".

Assignment_1.pyb

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```
[25] In array of 10 fives:
[0, 5, 5, 5, 5, 5, 5, 5, 5, 5.]

[26] In: import numpy as np
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

[28] In: import numpy as np
array=np.arange(20,36,2)
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]
```

File Explorer

- sample_data

Assignment_1.pyb

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

[1] In: import numpy as np
a = np.arange(2, 11).reshape(3,3)
print(a)

[[ 2  3  4]
 [ 5  6  7]
 [ 8  9 10]]

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

[23] In: a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
np.vstack((a, b))

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

Pandas
```

File Explorer

- sample_data

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Assignment_1.pyb

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

[15] In: import pandas as pd

# initialize data of lists..
data = {'name': ['tom', 'jack', 'nick', 'juli'],
        'marks': [90, 95, 90, 90]}

df

   name  marks
0  tom    90
1  jack   95
2  nick   90
```

File Explorer

- sample_data

```
Assignment_1.py  
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9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023  
[1] * import datetime module  
import datetime  
# consider the start date as 2023-January 1st  
start_date = datetime.date(2023, 1, 1)  
# consider the end date as 2023-march 1st  
end_date = datetime.date(2023, 3, 10)  
# delta time  
delta = datetime.timedelta(days=1)  
# iterate over range of dates  
while (start_date <= end_date):  
    print(start_date, end="\\n")  
    start_date += delta
```

```
Assignment_1.py  
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[21] 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
```

```
Assignment_1.py  
File Edit View Insert Runtime Tools Help Cancel save changes  
+ Code + Test Copy to Drive  
[21] 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  
10. Create 2D list to DataFrame  
data = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
[12] lists = [[], ['aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
[13] * importing pandas as pd  
import pandas as pd  
# dictionary of lists  
lists = {'S.No.': [1, 2, 3],  
        'name': ['aaa', 'bbb', 'ccc'],  
        'age': [22, 25, 24]}  
df = pd.DataFrame(lists)  
df
```

Assignment_1.ipynb

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10. Create 2D list to DataFrame

```
(1) sets = [[1, 'aaa', 22], [2, 'bbb', 23], [3, 'ccc', 24]]

(2) lists = [[1, 'aaa', 22], [2, 'bbb', 23], [3, 'ccc', 24]]

(3) # Importing pandas as pd
import pandas as pd

# Dictionary of lists
lists = {'id': [1, 2, 3],
        'name': ['aaa', 'bbb', 'ccc'],
        'age': [22, 23, 24]}

df = pd.DataFrame(lists)

df
```

	id	name	age
0	1	aaa	22
1	2	bbb	23
2	3	ccc	24

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File Explorer

sample_data

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