

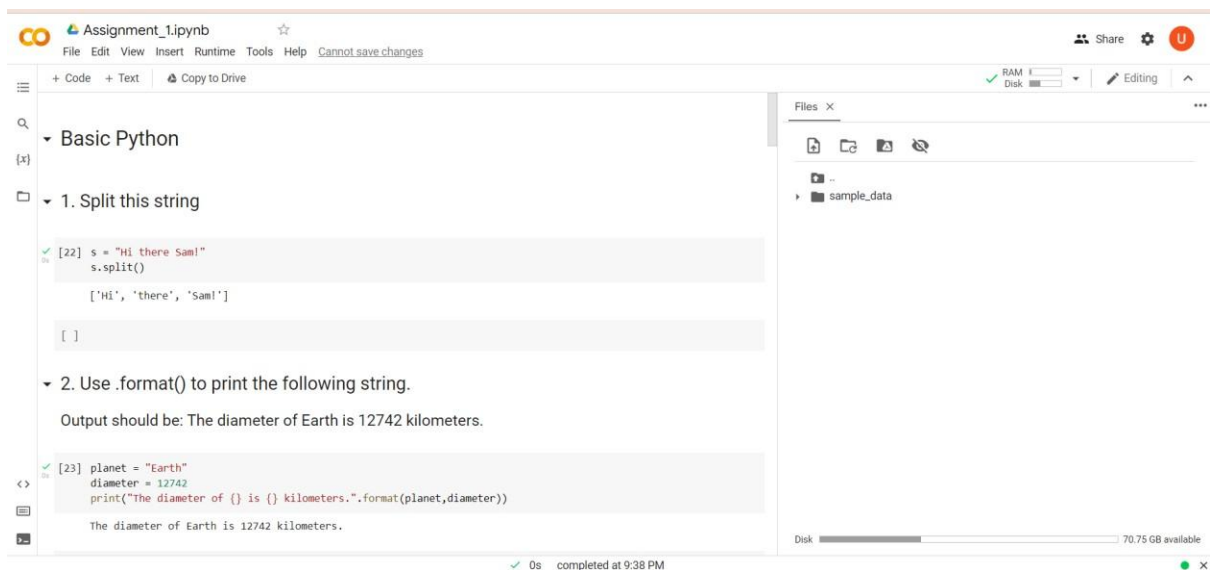
ASSIGNMENT 1

Date : 11 October 2022
Team ID : Dega Suthanu

Project Name : A NOVEL METHOD FOR HANDWRITTEN DIGIT RECOGNITION SYSTEM

Maximum Marks : 2 Marks

Basic Python Program:



The screenshot shows a Jupyter Notebook titled "Assignment_1.ipynb". The notebook contains two code cells. The first cell, labeled "1. Split this string", shows the code `s = "Hi there Sam!"` and `s.split()`, with the output `['Hi', 'there', 'Sam!']`. The second cell, labeled "2. Use .format() to print the following string.", shows the code `planet = "Earth"`, `diameter = 12742`, and `print("The diameter of {} is {} kilometers.".format(planet,diameter))`, with the output "The diameter of Earth is 12742 kilometers.". The notebook interface includes a menu bar (File, Edit, View, Insert, Runtime, Tools, Help), a toolbar with icons for code, text, and copy to drive, and a file explorer on the right showing a folder named "sample_data". The status bar at the bottom indicates "0s completed at 9:38 PM" and "70.75 GB available".

```
[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.
```

Assignment_1.ipynb

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3. In this nest dictionary grab the word "hello"

[24] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
d['k1'][3]['tricky'][3]['target'][3]

'hello'

[]

[]

Numpy

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

[25] import numpy as np
array=np.zeros(10)
print("An array of 10 zeros:")
print(array)

Files

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[25] An array of 10 zeros:
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

[26] 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

[10] 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]

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

import numpy as np
x = np.arange(2, 11).reshape(3,3)
print(x)

[[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])

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

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

Pandas

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8. Create a dataframe with 3 rows and 2 columns

[15] import pandas as pd

initialize data of lists.
data = {'Name': ['Tom', 'Jack', 'nick', 'juli'],
 'marks': [99, 98, 95, 90]}

df

	Name	Age
0	tom	10
1	nick	15
2	juli	14

[]

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

```
[x] 1 # import datetime module
import datetime

# consider the start date as 2021-february 1 st
start_date = datetime.date(2023, 1, 1)

# consider the end date as 2021-march 1 st
end_date = datetime.date(2023, 2, 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
```

Files X

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Assignment_1.ipynb

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```
[x] 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
```

Files X

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Assignment_1.ipynb

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```
[x] 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

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

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

[18] # 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
```

Files X

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10. Create 2D list to DataFrame

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

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

[18] # 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

	S.No	Name	age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

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