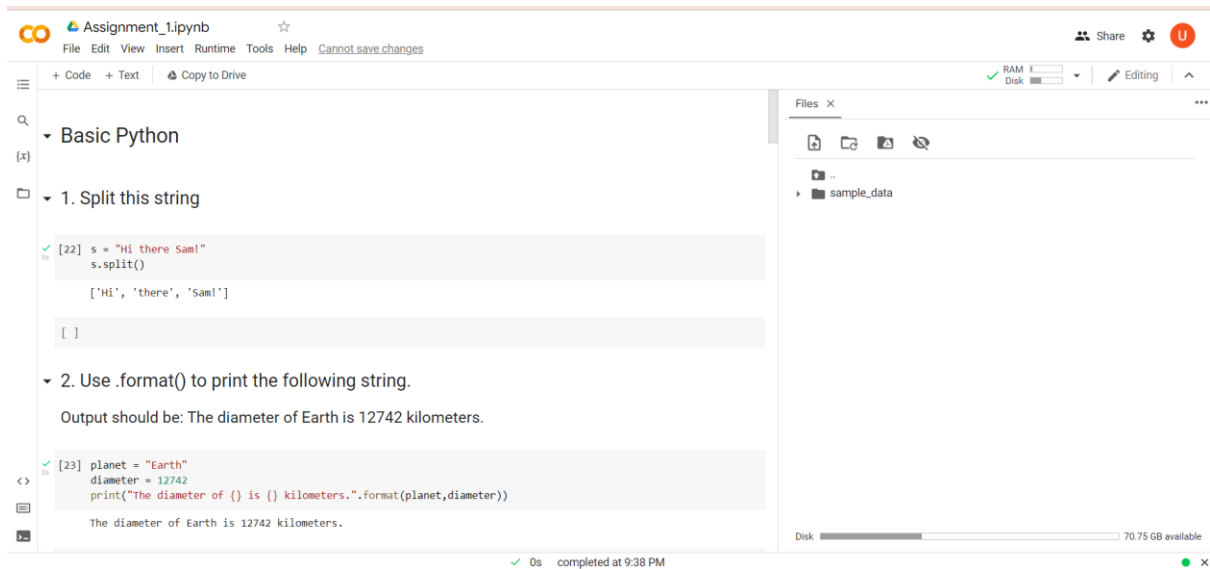


ASSIGNMENT 1

Basic Python Program:



This screenshot shows a Jupyter Notebook titled "Assignment_1.ipynb" with two tasks. Task 1 involves splitting a string and formatting a string. Task 2 involves using .format() to print a string. The notebook interface includes a top bar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help" menus, and a status bar at the bottom showing "0s completed at 9:38 PM".

```
[22] s = "Hi there Sam!"
     s.split()

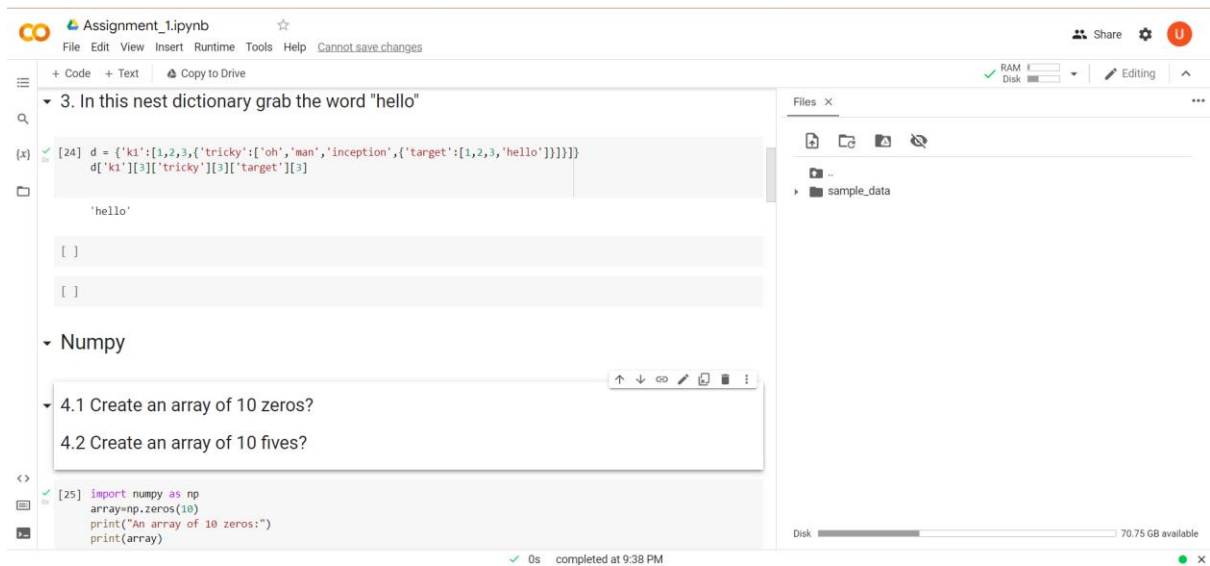
['Hi', 'there', 'Sam!']

[ ]

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.
```



This screenshot shows a Jupyter Notebook titled "Assignment_1.ipynb" with two tasks. Task 3 involves grabbing the word "hello" from a nested dictionary. Task 4 involves creating arrays of zeros and fives using Numpy. The notebook interface includes a top bar with "File", "Edit", "View", "Insert", "Runtime", "Tools", and "Help" menus, and a status bar at the bottom showing "0s completed at 9:38 PM".

```
[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)
```

Assignment_1.ipynb

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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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Disk
Editing

Assignment_1.ipynb

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

[1] ✓ 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

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Assignment_1.ipynb

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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
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2023-01-30
2023-01-31
2023-02-01
2023-02-02

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Assignment_1.ipynb

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RAM Disk

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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

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Assignment_1.ipynb

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10. Create 2D list to DataFrame

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[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 |

Files

sample_data

Disk 70.75 GB available