

ASSIGNMENT 1

Basic Python Program:

The screenshot shows a Jupyter Notebook 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 is a toolbar with icons for adding code, text, and copying to drive. The notebook content is organized into sections: "Basic Python" and "1. Split this string". The first code cell (index 22) contains the following Python code:

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

The output of this code is a list: `['Hi', 'there', 'Sam!']`. The second section, "2. Use .format() to print the following string.", includes the instruction: "Output should be: The diameter of Earth is 12742 kilometers." The corresponding code cell (index 23) is:

```
planet = "Earth"
diameter = 12742
print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

The output of this code is: `The diameter of Earth is 12742 kilometers.`. The right sidebar shows a file explorer with a folder named "sample_data". At the bottom, a status bar indicates "0s completed at 9:38 PM" and "70.75 GB available".

The screenshot shows a Jupyter Notebook titled "Assignment_1.ipynb". The interface is similar to the previous one, with a top menu bar and a toolbar. The notebook content includes sections: "3. In this nest dictionary grab the word 'hello'", "Numpy", "4.1 Create an array of 10 zeros?", and "4.2 Create an array of 10 fives?". The first code cell (index 24) contains the following Python code:

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

The output of this code is: `'hello'`. The second section, "Numpy", includes the instructions: "4.1 Create an array of 10 zeros?" and "4.2 Create an array of 10 fives?". The corresponding code cell (index 25) is:

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

The output of this code is: `An array of 10 zeros:` followed by a NumPy array of 10 zeros. The right sidebar shows a file explorer with a folder named "sample_data". At the bottom, a status bar indicates "0s completed at 9:38 PM" and "70.75 GB available".

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

[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]

Files X

sample_data

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

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

Disk 70.75 GB available

0s completed at 9:38 PM

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

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

[]

Files X

sample_data

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

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

sample_data

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

```
[x] 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
```

Files X

sample_data

Disk 70.75 GB available

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

```
[x] 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

```
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

sample_data

Disk 70.75 GB available

Assignment_1.ipynb

File Edit View Insert Runtime Tools Help Cannot save changes

+ Code + Text Copy to Drive

RAM 100% Disk 100% Editing

Share Settings User

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

Files

sample_data

Disk 70.75 GB available