

Assignment 1

Assignment Date	9 September 2022
Student Name	A.Sivalakshmi
Student Roll Number	962719106032
Maximum Marks	2Marks

1.Split this string

Solution:

```
s="Hi there Sam!"
```

```
x=s.split()
```

```
print(x)
```



2.Use.format() to print the following string

Solution:

```
planet="Earth";
```

```
diameter=12742;
```

```
print("The diameter of"+planet+"is",diameter,"kilometers");
```

```

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+ Code + Text
[2] print(x)
['Hi', 'there', 'Sam!']
2. Use .format() to print the following string.
Output should be: The diameter of Earth is 12742 kilometers.
[3] planet = "Earth"
    diameter = 12742
[4] planet="Earth";
    diameter=12742;
    print("The diameter of"+planet+"is",diameter,"kilometers");
The diameter ofEarthis 12742 kilometers

```

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

Solution:

```

d= {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
print(d['k1'][3]["tricky"][3]
['target'][3])

```

```

Assignment_1_3_txt.ipynb
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3. In this nest dictionary grab the word "hello"
[5] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
[6] print(d['k1'][3]["tricky"][3]
['target'][3])
hello

```

4. Create an array of 10 zeros?

Create an array of 10 fives?

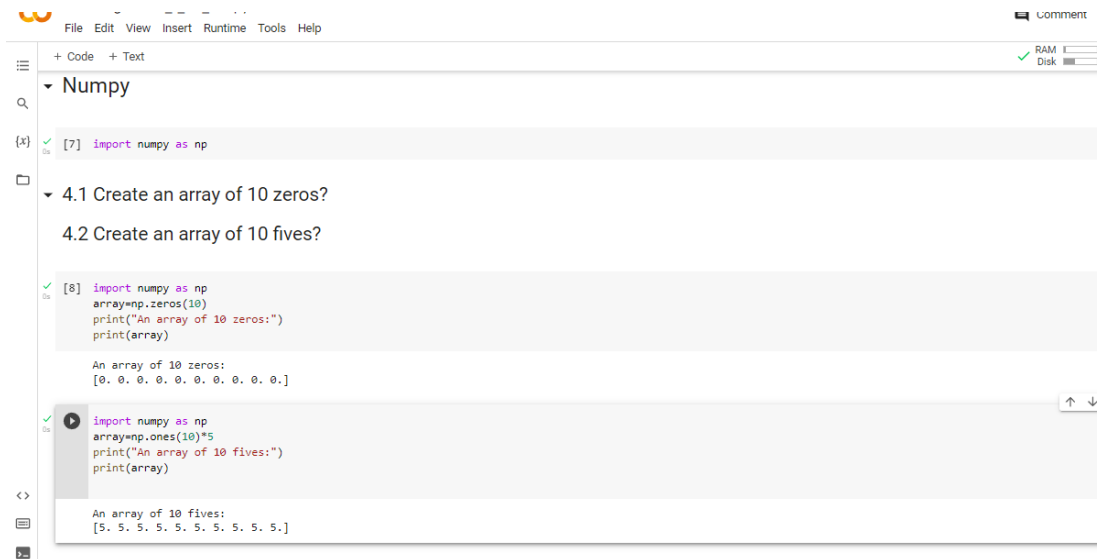
Solution:

```

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

```

```
print("An array of 10 fives:")
print(array)
```

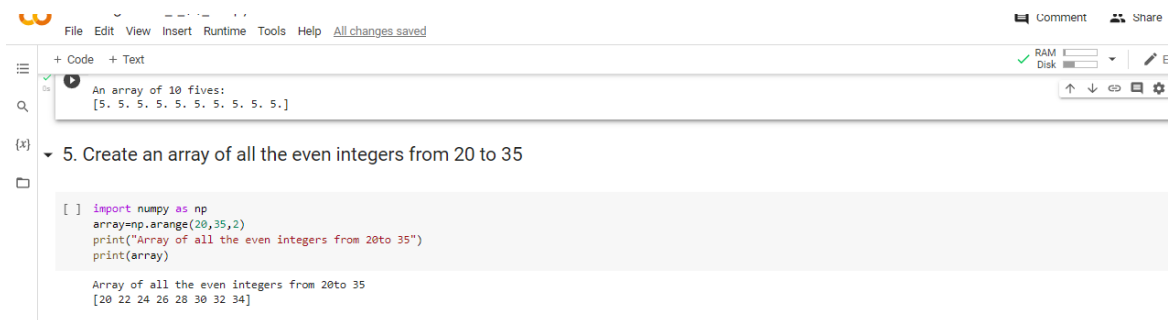


The image shows a Jupyter Notebook interface with a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with icons for code and text. The notebook contains three cells. The first cell is a code cell with the following code: `[7] import numpy as np`. The second cell is a text cell with the following text: `4.1 Create an array of 10 zeros?` and `4.2 Create an array of 10 fives?`. The third cell is a code cell with the following code: `[8] import numpy as np`, `array=np.zeros(10)`, `print("An array of 10 zeros:")`, and `print(array)`. The output of the third cell is: `An array of 10 zeros:` and `[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]`.

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

Solution:

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



The image shows a Jupyter Notebook interface with a menu bar (File, Edit, View, Insert, Runtime, Tools, Help) and a toolbar with icons for code and text. The notebook contains three cells. The first cell is a code cell with the following code: `[7] import numpy as np`. The second cell is a text cell with the following text: `4.1 Create an array of 10 zeros?` and `4.2 Create an array of 10 fives?`. The third cell is a code cell with the following code: `[8] import numpy as np`, `array=np.zeros(10)`, `print("An array of 10 zeros:")`, and `print(array)`. The output of the third cell is: `An array of 10 zeros:` and `[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]`.

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

Solution:

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

```
print(x)
```



The screenshot shows a Jupyter Notebook interface. The top bar includes a menu (File, Edit, View, Insert, Runtime, Tools, Help) and a status bar (All changes saved). The left sidebar has icons for file explorer, search, and variables. The main area displays a code cell with the following code: `array=np.arange(20,35,2)`, `print("Array of all the even integers from 20to 35")`, and `print(array)`. Below the code, the output is shown: "Array of all the even integers from 20to 35" and a 1D array `[20 22 24 26 28 30 32 34]`. A task instruction "6. Create a 3x3 matrix with values ranging from 0 to 8" is visible below the code cell.

```
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```

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

Array of all the even integers from 20to 35
[20 22 24 26 28 30 32 34]

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

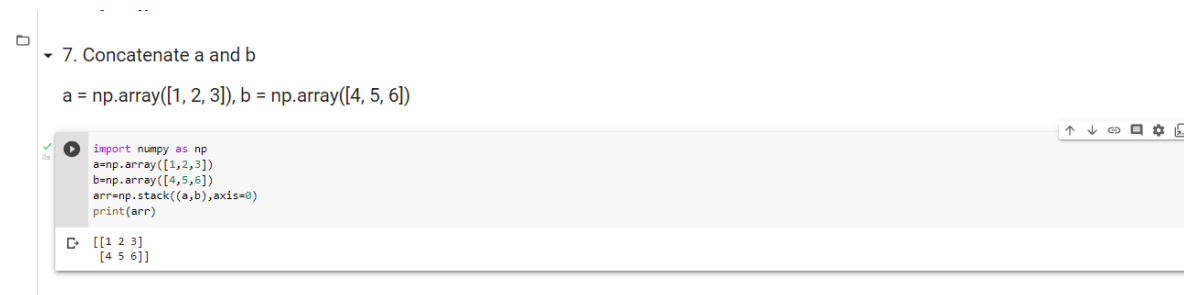
```
[ ] import numpy as np
    x=np.arange(0,9).reshape(3,3)
    print(x)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

7.Concatenate a and b

Solution:

```
import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
arr=np.stack((a,b),axis=0)
print(arr)
```



The screenshot shows a Jupyter Notebook interface. The left sidebar has a task instruction "7. Concatenate a and b". The main area displays a code cell with the following code: `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])`, `arr=np.stack((a,b),axis=0)`, and `print(arr)`. Below the code, the output is shown: a 2x3 array `[[1 2 3] [4 5 6]]`.

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])
arr=np.stack((a,b),axis=0)
print(arr)
```

```
[[1 2 3]
 [4 5 6]]
```

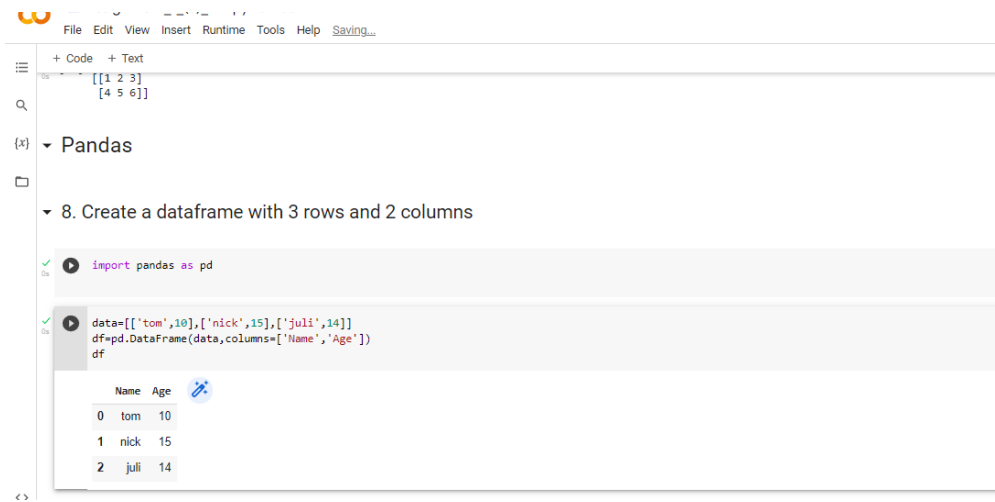
8.create a dataframe with 3rows and 2columnns

Solution:

```
import pandas as pd
```

```
data=[['tom',10],['nick',15],['juli',14]]
```

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



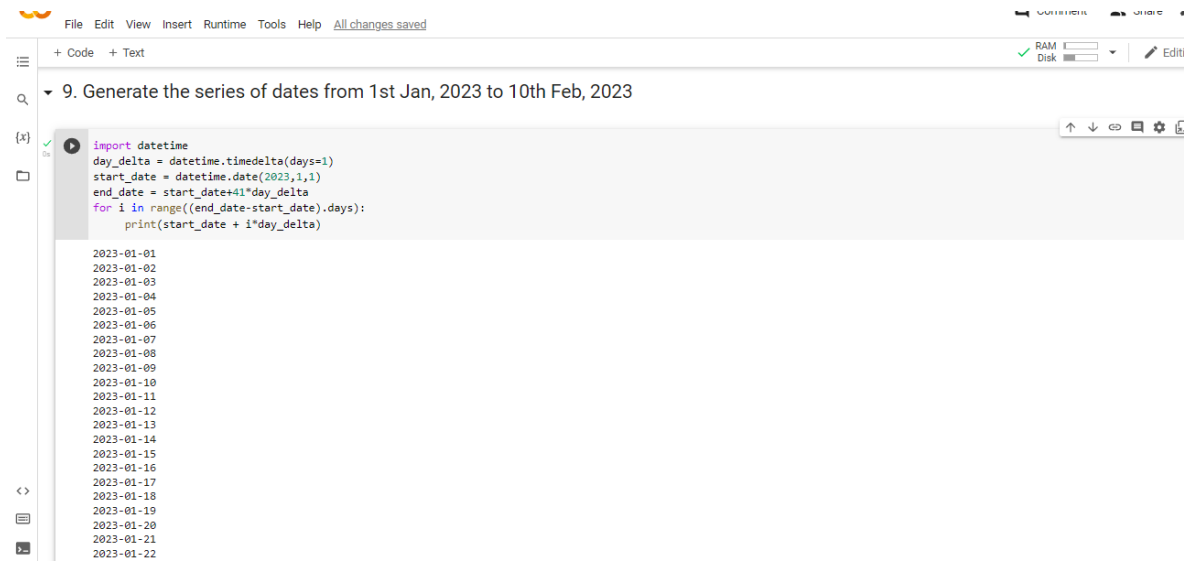
The screenshot shows a Jupyter Notebook interface. The top bar includes a logo and menu items: File, Edit, View, Insert, Runtime, Tools, Help, and Saving... Below the menu is a toolbar with '+ Code' and '+ Text' buttons. The main code area contains two cells. The first cell has the code `[[1 2 3], [4 5 6]]`. The second cell is titled '8. Create a dataframe with 3 rows and 2 columns' and contains the code `import pandas as pd` followed by `data=[['tom',10],['nick',15],['juli',14]]` and `df=pd.DataFrame(data,columns=['Name','Age'])`. Below the code, a preview of the DataFrame is shown as a table with columns 'Name' and 'Age'.

	Name	Age
0	tom	10
1	nick	15
2	juli	14

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

Solution:

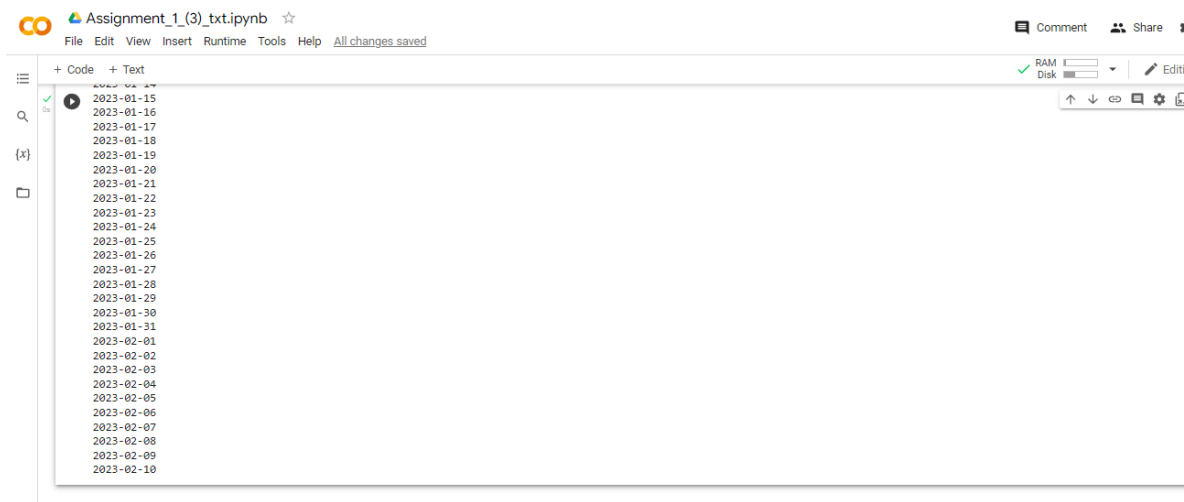
```
import datetime
day_delta = datetime.timedelta(days=1)
start_date = datetime.date(2023,1,1)
end_date = start_date+41*day_delta
for i in range((end_date-start_date).days):
    print(start_date + i*day_delta)
```



The screenshot shows a Jupyter Notebook interface. The top bar includes a menu (File, Edit, View, Insert, Runtime, Tools, Help) and a status bar indicating "All changes saved". The notebook is titled "9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023". The code cell contains the following Python code:

```
import datetime
day_delta = datetime.timedelta(days=1)
start_date = datetime.date(2023,1,1)
end_date = start_date+41*day_delta
for i in range((end_date-start_date).days):
    print(start_date + i*day_delta)
```

The output of the code is a list of dates from 2023-01-01 to 2023-01-22, printed one per line.



The screenshot shows a Jupyter Notebook interface. The top bar includes a menu (File, Edit, View, Insert, Runtime, Tools, Help) and a status bar indicating "All changes saved". The notebook is titled "Assignment_1(3)_txt.ipynb". The code cell contains the following Python code:

```
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
2023-02-03
2023-02-04
2023-02-05
2023-02-06
2023-02-07
2023-02-08
2023-02-09
2023-02-10
```

The output of the code is a list of dates from 2023-01-15 to 2023-02-10, printed one per line.

10.Create 2D list to DataFrame

Solution:

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(lists,columns=['Number',"Letter",'Number'])
print(df)
```

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2023-02-09
2023-02-10

10. Create 2D list to DataFrame

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

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

df=pd.DataFrame(lists,columns=['Number','Letter','Number'])
print(df)

	Number	Letter	Number
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

+ Code + Text

RAM
Disk