

Assignment -1

Python Programming

Assignment Date	25 September 2022
Student Name	A.Johnson
Student Roll Number	821919104005
Maximum Marks	2 Marks

Question-1:

1. Split this string

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

Solution:

```
In [ ]:
```

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

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

1. Split this string

```
In [ ]: s = "Hi there Sam!"
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```
In [ ]: s = "Hi there Sam!"  
s = "Hi there Sam!"  
n=s.split()  
print(n)
```

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

Question-2:

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

Output should be: The diameter of Earth is 12742 kilometers.

Solution:

```
In []:
planet = "Earth"
diameter = 12742
```

```
In []:
planet = "Earth"
diameter = 12742
star="The diameter of {p} is {k} kilometers"
print(star.format(p=planet,k=diameter))
```

The diameter of Earth is 12742 kilometers

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

Output should be: The diameter of Earth is 12742 kilometers.

```
In [ ]:
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star="The diameter of {p} is {k} kilometers"
print(star.format(p=planet,k=diameter))

The diameter of Earth is 12742 kilometers
```

Question-3:

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

Solution:

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

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

Out[]: 'hello'
```

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

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

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

```
Out[ ]: 'hello'
```

Question-4:

Numpy

```
In [ ]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Solution:

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

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

```
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.]

Numpy

```
In [ ]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

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In [ ]: import numpy as np
array=np.zeros(10)
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An array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

```
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.]

Question-5:

Solution:

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

```
In [ ]: a=np.arange(20,35,2)
print(a)
```

[20 22 24 26 28 30 32 34]

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

```
In [ ]: a=np.arange(20,35,2)
print(a)
```

[20 22 24 26 28 30 32 34]

Question-6:

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

Solution:

```
In [ ]: x=np.arange(0,9).reshape(3,3)
print(x)
```

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

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

```
In [ ]: x=np.arange(0,9).reshape(3,3)
print(x)
```

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

Question-7:

7. Concatenate a and b

Solution:

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

```
In [ ]: import numpy as np
```

```
a=np.array([1,2,3])
```

```
b=np.array([4,5,6])
```

```
np.concatenate((a, b))
```

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

7. Concatenate a and b

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

```
In [ ]: import numpy as np
        a=np.array([1,2,3])
        b=np.array([4,5,6])
        np.concatenate((a, b))
```

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

Question-8:

Pandas

8. Create a dataframe with 3 rows and 2 columns

Solution:

```
In []: import pandas as pd
In []: import pandas as pd
data=[['vamsi',10],['mahesh',20],['sai',30]]
a=pd.DataFrame(data,columns=['Name','Age',])
print(a)
```

	Name	Age
0	vamsi	10
1	mahesh	20
2	sai	30

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [ ]: import pandas as pd
```

```
In [ ]: import pandas as pd
data=[['vamsi',10],['mahesh',20],['sai',30]]
a=pd.DataFrame(data,columns=['Name','Age',])
print(a)
```

	Name	Age
0	vamsi	10
1	mahesh	20
2	sai	30

Question-9:

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

Solution:

```
In[: from datetime import datetime, timedelta
```

```
def date_range(start,end):
    delta=end - start
    days= [start + timedelta(days=i) for i in range(delta.days + 1)]
    return days
start_date=datetime(2023,1,1)
end_date=datetime(2023,2,10)
print(date_range(start_date, end_date))
```

```
[datetime.datetime(2023, 1, 1, 0, 0), datetime.datetime(2023, 1, 2, 0, 0),
datetime.datetime(2023, 1, 3, 0, 0), datetime.datetime(2023, 1, 4, 0, 0),
datetime.datetime(2023, 1, 5, 0, 0), datetime.datetime(2023, 1, 6, 0, 0),
datetime.datetime(2023, 1, 7, 0, 0), datetime.datetime(2023, 1, 8, 0, 0),
datetime.datetime(2023, 1, 9, 0, 0), datetime.datetime(2023, 1, 10, 0, 0),
datetime.datetime(2023, 1, 11, 0, 0), datetime.datetime(2023, 1, 12, 0, 0),
datetime.datetime(2023, 1, 13, 0, 0), datetime.datetime(2023, 1, 14, 0, 0),
datetime.datetime(2023, 1, 15, 0, 0), datetime.datetime(2023, 1, 16, 0, 0),
datetime.datetime(2023, 1, 17, 0, 0), datetime.datetime(2023, 1, 18, 0, 0),
datetime.datetime(2023, 1, 19, 0, 0), datetime.datetime(2023, 1, 20, 0, 0),
datetime.datetime(2023, 1, 21, 0, 0), datetime.datetime(2023, 1, 22, 0, 0),
datetime.datetime(2023, 1, 23, 0, 0), datetime.datetime(2023, 1, 24, 0, 0),
datetime.datetime(2023, 1, 25, 0, 0), datetime.datetime(2023, 1, 26, 0, 0),
datetime.datetime(2023, 1, 27, 0, 0), datetime.datetime(2023, 1, 28, 0, 0),
datetime.datetime(2023, 1, 29, 0, 0), datetime.datetime(2023, 1, 30, 0, 0),
datetime.datetime(2023, 1, 31, 0, 0), datetime.datetime(2023, 2, 1, 0, 0),
datetime.datetime(2023, 2, 2, 0, 0), datetime.datetime(2023, 2, 3, 0, 0),
datetime.datetime(2023, 2, 4, 0, 0), datetime.datetime(2023, 2, 5, 0, 0),
datetime.datetime(2023, 2, 6, 0, 0), datetime.datetime(2023, 2, 7, 0, 0),
datetime.datetime(2023, 2, 8, 0, 0), datetime.datetime(2023, 2, 9, 0, 0),
datetime.datetime(2023, 2, 10, 0, 0)]
```

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

In []:

```
from datetime import datetime, timedelta
```

```
def date_range(start, end):  
    delta = end - start  
    days = [start + timedelta(days=i) for i in range(delta.days + 1)]  
    return days  
start_date = datetime(2023, 1, 1)  
end_date = datetime(2023, 2, 10)  
print(date_range(start_date, end_date))
```

```
[datetime.datetime(2023, 1, 1, 0, 0), datetime.datetime(2023, 1, 2, 0, 0), datetime.datetime(2023, 1, 3, 0, 0), datetime.datetime(2023, 1, 4, 0, 0), datetime.datetime(2023, 1, 5, 0, 0), datetime.datetime(2023, 1, 6, 0, 0), datetime.datetime(2023, 1, 7, 0, 0), datetime.datetime(2023, 1, 8, 0, 0), datetime.datetime(2023, 1, 9, 0, 0), datetime.datetime(2023, 1, 10, 0, 0), datetime.datetime(2023, 1, 11, 0, 0), datetime.datetime(2023, 1, 12, 0, 0), datetime.datetime(2023, 1, 13, 0, 0), datetime.datetime(2023, 1, 14, 0, 0), datetime.datetime(2023, 1, 15, 0, 0), datetime.datetime(2023, 1, 16, 0, 0), datetime.datetime(2023, 1, 17, 0, 0), datetime.datetime(2023, 1, 18, 0, 0), datetime.datetime(2023, 1, 19, 0, 0), datetime.datetime(2023, 1, 20, 0, 0), datetime.datetime(2023, 1, 21, 0, 0), datetime.datetime(2023, 1, 22, 0, 0), datetime.datetime(2023, 1, 23, 0, 0), datetime.datetime(2023, 1, 24, 0, 0), datetime.datetime(2023, 1, 25, 0, 0), datetime.datetime(2023, 1, 26, 0, 0), datetime.datetime(2023, 1, 27, 0, 0), datetime.datetime(2023, 1, 28, 0, 0), datetime.datetime(2023, 1, 29, 0, 0), datetime.datetime(2023, 1, 30, 0, 0), datetime.datetime(2023, 1, 31, 0, 0), datetime.datetime(2023, 2, 1, 0, 0), datetime.datetime(2023, 2, 2, 0, 0), datetime.datetime(2023, 2, 3, 0, 0), datetime.datetime(2023, 2, 4, 0, 0), datetime.datetime(2023, 2, 5, 0, 0), datetime.datetime(2023, 2, 6, 0, 0), datetime.datetime(2023, 2, 7, 0, 0), datetime.datetime(2023, 2, 8, 0, 0), datetime.datetime(2023, 2, 9, 0, 0), datetime.datetime(2023, 2, 10, 0, 0)]
```

Question-10:

10. Create 2D list to DataFrame

Solution:

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

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

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

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

```
df = pd.DataFrame(lists, columns=['Number', 'FName', 'Age'])
```

```
print(df)
```

	Number	FName	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

```
In [ ]:
```

```
In [ ]:
```


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

	Number	FName	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

```
In [ ]:
```

```
In [ ]:
```
