Assignment 1

Python Programming

Assignment Date	09-09-2022
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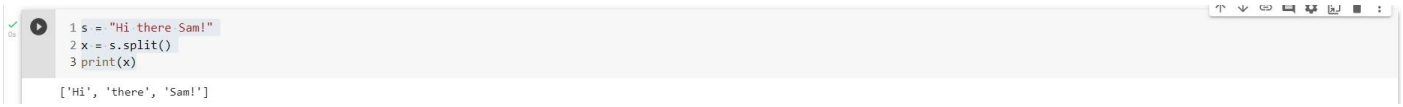
Maximum Marks	Each question carries 2 marks

Question 1

Split this string `s = "Hi there Sam!"` **Solution**

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



Question 2

Use .format() to print the following string.
Output should be: The diameter of Earth is 12742 kilometer.

Solution

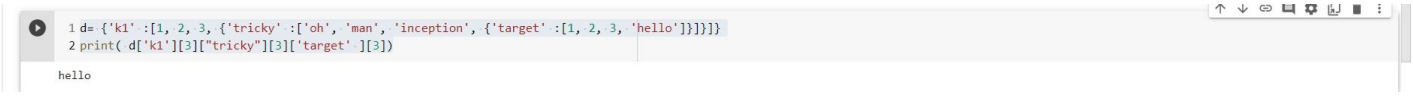
```
planet = "Earth" diametre
= "12742"
print('The Diametre of {} is {} kilometres'.format(planet, diametre))
```

Question 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])
```

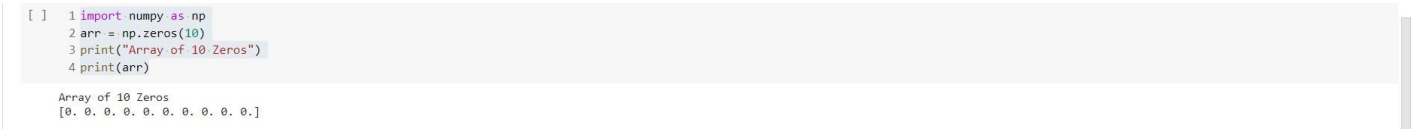


Question 4

Numpy

4.1 Create an array of 10 zeros? **Solution**

```
import numpy as np arr =
np.zeros(10) print("Array
of 10 Zeros") print(arr)
```



4.2 Create an array of 10 fives? **Solution**

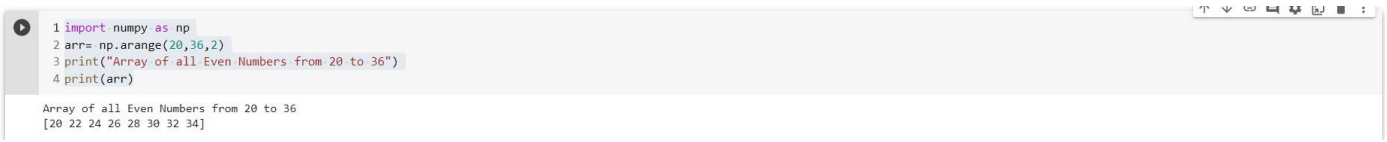
```
import numpy as np arr =
np.ones(10)*5 print("Array
of 10 Fives") print(arr)
```

Question 5

Create an array of all the even integers from 20 to 36

Solution

```
import numpy as np arr=
np.arange(20,36,2)
print("Array of all Even Numbers from 20 to 36") print(arr)
```



Question 6

Create a 3x3 matrix with values ranging from 0 to 8 **Solution**

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

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

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

Question 7

Concatenate a and b

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

```
import numpy as np a =
np.array([1,2,3]) print(a) b =
np.array([4,5,6]) print(b)
print("Concatination of a and b")
print(np.concatenate((a, b)))
```

```
import numpy as np
a = np.array([1,2,3])
print(a)
b = np.array([4,5,6])
print(b)
print("Concatination of a and b")
print(np.concatenate((a, b)))
```

```
[1 2 3]
[4 5 6]
Concatination of a and b
[1 2 3 4 5 6]
```

Question 8

Pandas : Create a dataframe with 3 rows and 2 columns

Solution

```
import pandas as pd data = [['tom', 10],
['nick', 15], ['juli', 14]] df =
pd.DataFrame(data, columns=['Name', 'Age']) df
```

```
[7]
import pandas as pd
data = [['tom', 10], ['nick', 15], ['juli', 14]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
df
```

	Name	Age
0	tom	10
1	nick	15
2	juli	14

Question 9

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023 **Solution**

```
import pandas from datetime import
datetime, timedelta
   startDate = datetime(2023, 1,
1) endDate = datetime(2023, 2,
10)

# Getting List of Days using pandas datesRange =
pandas.date_range(startDate,endDate-timedelta(days=1),freq='d')
print(datesRange);
```

```
import pandas
from datetime import datetime, timedelta

startDate = datetime(2023, 1, 1)
endDate = datetime(2023, 2, 10)

# Getting List of Days using pandas
datesRange = pandas.date_range(startDate,endDate-timedelta(days=1),freq='d')
print(datesRange);
```

```
DatetimeIndex(['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', '2023-02-03', '2023-02-04', '2023-02-05',
               '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09'],
              dtype='datetime64[ns]', freq='D')
```

Question 10

Create 2D list to DataFrame

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

Solution

```
import pandas as pd   lst = [[1, 'aaa', 22], [2,
'bbb', 25],[3, 'ccc', 24]]  df = pd.DataFrame(lst)
print(df )
```

```
import pandas as pd
lst = [[1, 'aaa', 22], [2, 'bbb', 25],[3, 'ccc', 24]]
df = pd.DataFrame(lst)
print(df )
```

```
   0    1   2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```



```
import pandas as pd
lst = [[1, 'aaa', 22], [2, 'bbb', 25],[3, 'ccc', 24]]
df = pd.DataFrame(lst)
print(df )
```

```
   0    1   2
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```