ASSIGNMENT 1

ASSIGNMENT DATE	10 SEPTEMBER 2020
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MAXIMUM MARKS	2 MARKS

Basic Python

1. Split this string

In [ ]:
```
s = "Hi there Sam!"
```

In [ ]:
```
print(s.split())
```

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

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

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

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

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

```
The diameter of Earth is 12742 kilometers.
```

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

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

In [ ]:
```
print(d["k1"][3]["tricky"][3]["target"][3])
```

```
hello
```

Numpy

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

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

In [ ]:
```
print(np.zeros(10))
```

```
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [ ]:
```
print(np.ones(10)*5)
```

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

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

```
[20 22 24 26 28 30 32 34]
```

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

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

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

7. Concatenate a and b

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

In [ ]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
print(np.concatenate((a,b),axis=0))
```

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

Pandas

8. Create a dataframe with 3 rows and 2 columns

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

In [ ]:
```
data = [[1,2],[3,4],[5,6]]
print(pd.DataFrame(data))
```

```
   0  1
0  1  2
1  3  4
2  5  6
```

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

In [ ]:
```
print(pd.date_range(start='1/1/2023', end='02/10/2023'))
```

```
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',
               '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

10. Create 2D list to DataFrame

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

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

In [ ]:
```
print(pd.DataFrame(lists,columns=['value1','value2','value3']))
```

```
   value1 value2  value3
0       1    aaa      22
1       2    bbb      25
2       3    ccc      24
```