Assignment -1
Python Programming

Assignment Date	22 OCTOBER 2022
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Question-1:

1. Split this string

s = "Hi there Sam!"

SOLUTION:

```
import numpy as np
s="Hi there Sam!"
s=s.split()
print(s);
```

OUTPUT:

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

Question-2:

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

Solution:

```
import numpy as np
planet = "Earth"
diameter = 12742
print( 'The diameter of {} is {} kilometers.' .format(planet,diameter));
```

OUTPUT:

Question-3:

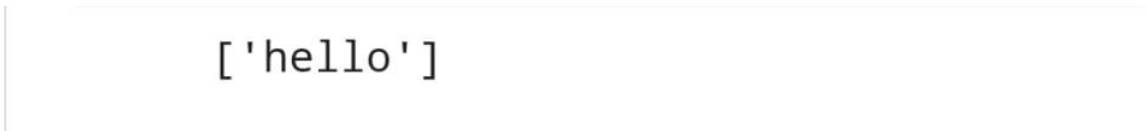
3. In this nest dictionary grab the word "hello"[ ]

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

SOLUTION:

```
import numpy as np
lst=[1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
a=lst[3][1][2];
print(a);
```

OUTPUT:



Question-4:

```
## Numpy
4.1 Create an array of 10 zeros?
```

SOLUTION:

```
import numpy as np
np.zeros(10)
```

OUTPUT:

```
array([0., 0., 0., 0., 0., 0., 0.,
0., 0., 0.])
```

Numpy
4.2 Create an array of 10 fives?

SOLUTION:
import numpy as np

np.ones(10) * 5

OUTPUT:

```
array([5., 5., 5., 5., 5., 5., 5.,
5., 5., 5.])
```

Question-5:

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

SOLUTION:
import numpy as np
np.arange(20,36,2)

OUTPUT:

```
array([20, 22, 24, 26, 28, 30, 32,
34])
```

Question-6:

6. Create a 3x3 matrix with values ranging from 0 to 8
Solution:
import numpy as np

np.arange(0,9).reshape((3,3))

OUTPUT:

```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

Question-7:

7. Concatenate a and b

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

SOLUTION:
import numpy as np
np.arange(9).reshape(3,3)

OUTPUT:

```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

Question-8:

8. Create a dataframe with 3 rows and 2 columns

SOLUTION:

```
import numpy as np
import pandas as pd
my_dict = {"x": 2, "a": 5, "b": 4}

my_series2 = pd.Series(my_dict)
my_series2;
```

OUTPUT:

```
x    2
a    5
b    4
dtype: int64
```

Question-9:

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

SOLUTION:

```
import numpy as np
import pandas as pd
from datetime import date, timedelta

sdate = date(2023,1,1)   # start date
edate = date(2023,2,10)   # end date

def dates_bwn_twodates(start_date, end_date):
    for n in range(int ((end_date - start_date).days)):
        yield start_date + timedelta(n)
print(dates_bwn_twodates(sdate,edate))
```

OUTPUT:

```
<generator object dates_bwn_twodates
```

Question-10:

10. Create 2D list to DataFrame

lists = [[1, 'aaa', 22],

[2, 'bbb', 25],

[3, 'ccc', 24]]

SOLUTION:

```
import numpy as np
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]
```

OUTPUT:

```
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```