1. Split this string

```
In [1]: s = "Hi there Sam!"
        print(s.split())

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

In [ ]:
```

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

```
In [2]: planet = "Earth"
        diameter = 12742
        print("The diameter of {0} is {1} kilometers.".format(planet,diameter))

        The diameter of Earth is 12742 kilometers.
```

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

```
In [3]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
        a = d['k1']
        b = a[3]
        c = b['tricky']
        d = c[3]
        e = d['target'][3]
        print(e)

        hello
```

4. Create an array of 10 zeros?

```
In [4]: import numpy as np
        arr = np.zeros(10)

        print(arr)
        arr = np.ones(10)*5
        print(arr)

        [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
        [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
In [5]: arr =np.array([i for i in range(20,36) if(i%2 ==0) ])
        print(np.array(arr))

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

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

```
In [6]: arr = np.array([range(0,9)])
        print(arr.reshape(3,3))

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

7. Concatenate a and b

In [7]:
```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
c = np.concatenate((a,b),axis =0)
print(c)
```

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

8. Create a dataframe with 3 rows and 2 columns

In [8]:
```
import pandas as pd
data = [[1,2],[4,5],[6,7]]
df = pd.DataFrame(data,columns=['a','b'])
print(df)
```

```
   a  b
0  1  2
1  4  5
2  6  7
```

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

In [9]:
```
min_date = "2023-01-01"
max_date ="2023-02-10"
dt = pd.date_range(min_date,max_date)
dt
```

Out[9]:
```
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

In [10]:
```
import pandas as pd
lists = [[1, 'aaa', 22],
         [2, 'bbb', 25],
         [3, 'ccc', 24]]
df = pd.DataFrame(lists)
print(df)
```

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

In [ ]: