CRUDE OIL PRICE DETECTION GOKUL R

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Basic Python

1. Split this string
   CODE:
   s = "Hi there Sam!"
   x = s.split()
   print(x)

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

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

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

   CODE:

   planet = "Earth"

   diameter = 12742

   print('The diameter of {} is {} kilometers.' .format(planet,diameter));

   ANS:

   The diameter of Earth is 12742 kilometers.

3. In this nest dictionary grab the word "hello”
   CODE:
   d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
   print(d['k1'][3]["tricky"][3]['target'][3])
   ANS:
   Hello

NUMPY

4.1 Create an array of 10 zeros?
   CODE:
   array=np.zeros(10)
   print("An array of 10 zeros:")
   print(array)
   ANS:
   An array of 10 zeros:
   [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]

4.2 Create an array of 10 fives?

CODE:

```
array=np.ones(10)
print("An array of 10 ones:")
print(array)
```

ANS:

```
An array of 10 ones:
[1. 1. 1. 1. 1. 1. 1. 1. 1. 1.]
```

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

CODE:

```
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

ANS:

```
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

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

CODE:

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

ANS:

```
array([[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])

CODE:

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

ANS:

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

PANDAS

8. Create a dataframe with 3 rows and 2 columns
   CODE:
   ```
   import pandas as pd
   data = [10,20,30]
   df = pd.DataFrame(data, columns=['Numbers'])
   print(df)
   ```
   ANS:
   ```
   Numbers
   0      10
   1      20
   2      30
   ```

9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023
   CODE:
   ```
   import pandas as pd
   from datetime import datetime
   pd.date_range(start="2023-01-01",end="2023-02-10")
   ```
   ANS:
   ```
   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]]
    ```
    CODE:
    ```
    import pandas as pd
    lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
    df = pd.DataFrame(lists, columns =['num', 'name','no'])
    print(df )
    ```
    ANS:
    ```
    num name  no
    0   1  aaa  22
    1   2  bbb  25
    2   3  ccc  24
    ```