MACHINE LEARNING LAB-0 OUTPUTS

TO-DO-1

Method-1:

```
Sample data:
     USN       Name   Marks
0    225      Shashi     97
1    230        Deva     85
2    135   Rishikesh     76
3    140     Varadha     84
4    160    C K Reddy    92
```

Method-2:

```
Sample data:
        age       sex       bmi        bp        s1        s2        s3  \
0   0.038076  0.050680  0.061696  0.021872 -0.044223 -0.034821 -0.043401
1  -0.001882 -0.044642 -0.051474 -0.026328 -0.008449 -0.019163  0.074412
2   0.085299  0.050680  0.044451 -0.005670 -0.045599 -0.034194 -0.032356
3  -0.089063 -0.044642 -0.011595 -0.036656  0.012191  0.024991 -0.036038
4   0.005383 -0.044642 -0.036385  0.021872  0.003935  0.015596  0.008142

         s4        s5        s6  target
0  -0.002592  0.019907 -0.017646   151.0
1  -0.039493 -0.068332 -0.092204    75.0
2  -0.002592  0.002861 -0.025930   141.0
3   0.034309  0.022688 -0.009362   206.0
4  -0.002592 -0.031988 -0.046641   135.0
```

Method-3:

```
Sample data:
      Product  Quantity  Price  Sales  Region
0      Laptop         5   1000   5000   North
1       Mouse        15     20    300    West
2    Keyboard        10     50    500    East
3     Monitor         8    200   1600   South
4      Laptop        12    950  11400   North
```

Method-4:

```
Sample data:
     ID  No_Pation Gender  AGE  Urea  Cr  HbA1c  Chol   TG  HDL  LDL  VLDL  \
0   502      17975      F   50   4.7  46    4.9   4.2  0.9  2.4  1.4   0.5
1   735      34221      M   26   4.5  62    4.9   3.7  1.4  1.1  2.1   0.6
2   420      47975      F   50   4.7  46    4.9   4.2  0.9  2.4  1.4   0.5
3   680      87656      F   50   4.7  46    4.9   4.2  0.9  2.4  1.4   0.5
4   504      34223      M   33   7.1  46    4.9   4.9  1.0  0.8  2.0   0.4

    BMI CLASS
0  24.0     N
1  23.0     N
2  24.0     N
3  24.0     N
4  21.0     N
```

TO-DO-2

```
[*******************100%*********************]  3 of 3 completedFirst 5 rows of the dataset:
Ticker      ICICIBANK.NS                                            \
Price            Open        High         Low       Close     Volume
Date
2024-01-01  983.086778  996.273246  982.541485  990.869812   7683792
2024-01-02  988.490253  989.134730  971.883221  973.866150  16263825
2024-01-03  976.295294  979.567116  966.777197  975.650818  16826752
2024-01-04  977.980767  980.707295  973.519176  978.724365  22789140
2024-01-05  979.567084  989.779158  975.402920  985.218445  14875499


Ticker       HDFCBANK.NS                                              \
Price            Open         High          Low        Close     Volume
Date
2024-01-01  1683.017598  1686.125187  1669.206199  1675.223999   7119843
2024-01-02  1675.914685  1679.860799  1665.950651  1676.210571  14621046
2024-01-03  1679.071480  1681.735059  1646.466666  1650.363525  14194881
2024-01-04  1655.394910  1672.116520  1648.193203  1668.071777  13367028
2024-01-05  1664.421596  1681.932477  1645.628180  1659.538208  15944735


Ticker      KOTAKBANK.NS
Price            Open         High          Low        Close     Volume
Date
2024-01-01  1906.909954  1916.899006  1891.027338  1907.059814  1425902
2024-01-02  1905.911108  1905.911108  1858.063525  1863.008179  5120796
2024-01-03  1861.959234  1867.952665  1845.627158  1863.857178  3781515
2024-01-04  1869.451068  1869.451068  1858.513105  1861.559692  2865766
2024-01-05  1863.457575  1867.852782  1839.383985  1845.577148  7799341
```

```
Shape of the dataset:
(244, 15)

Column names:
MultiIndex([('ICICIBANK.NS',    'Open'),
            ('ICICIBANK.NS',    'High'),
            ('ICICIBANK.NS',     'Low'),
            ('ICICIBANK.NS',   'Close'),
            ('ICICIBANK.NS',  'Volume'),
            ( 'HDFCBANK.NS',    'Open'),
            ( 'HDFCBANK.NS',    'High'),
            ( 'HDFCBANK.NS',     'Low'),
            ( 'HDFCBANK.NS',   'Close'),
            ( 'HDFCBANK.NS',  'Volume'),
            ('KOTAKBANK.NS',    'Open'),
            ('KOTAKBANK.NS',    'High'),
            ('KOTAKBANK.NS',     'Low'),
            ('KOTAKBANK.NS',   'Close'),
            ('KOTAKBANK.NS',  'Volume')],
           names=['Ticker', 'Price'])

Summary statistics for HDFC Bank:
Price          Open         High          Low        Close        Volume
count    244.000000   244.000000   244.000000   244.000000  2.440000e+02
mean    1601.375295  1615.443664  1588.221245  1601.898968  2.119658e+07
std      134.648125   134.183203   132.796819   133.748372  2.133860e+07
min     1357.463183  1372.754374  1345.180951  1365.404785  8.798460e+05
25%     1475.316358  1494.072805  1460.259509  1474.564087  1.274850e+07
50%     1627.724976  1638.350037  1616.000000  1625.950012  1.686810e+07
75%     1696.474976  1711.425018  1679.250000  1697.062531  2.295014e+07
max     1877.699951  1880.000000  1858.550049  1871.750000  2.226710e+08
<ipython-input-46-60f5477ca667>:16: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  reliance_data['Daily Return'] = reliance_data['Close'].pct_change()
```

```
Shape of the dataset:
(244, 15)

Column names:
MultiIndex([('ICICIBANK.NS',    'Open'),
            ('ICICIBANK.NS',    'High'),
            ('ICICIBANK.NS',     'Low'),
            ('ICICIBANK.NS',   'Close'),
            ('ICICIBANK.NS',  'Volume'),
            ( 'HDFCBANK.NS',    'Open'),
            ( 'HDFCBANK.NS',    'High'),
            ( 'HDFCBANK.NS',     'Low'),
            ( 'HDFCBANK.NS',   'Close'),
            ( 'HDFCBANK.NS',  'Volume'),
            ('KOTAKBANK.NS',    'Open'),
            ('KOTAKBANK.NS',    'High'),
            ('KOTAKBANK.NS',     'Low'),
            ('KOTAKBANK.NS',   'Close'),
            ('KOTAKBANK.NS',  'Volume')],
           names=['Ticker', 'Price'])

Summary statistics for ICICI Bank:
Price          Open         High          Low        Close        Volume  \
count    244.000000   244.000000   244.000000   244.000000  2.440000e+02
mean    1601.375295  1615.443664  1588.221245  1601.898968  2.119658e+07
std      134.648125   134.183203   132.796819   133.748372  2.133860e+07
min     1357.463183  1372.754374  1345.180951  1365.404785  8.798460e+05
25%     1475.316358  1494.072805  1460.259509  1474.564087  1.274850e+07
50%     1627.724976  1638.350037  1616.000000  1625.950012  1.686810e+07
75%     1696.474976  1711.425018  1679.250000  1697.062531  2.295014e+07
max     1877.699951  1880.000000  1858.550049  1871.750000  2.226710e+08

Price  Daily Return
count    243.000000
mean       0.000392
std        0.014151
min       -0.084358
25%       -0.006986
50%        0.000703
75%        0.007460
max        0.046287
<ipython-input-51-fd7feb62a0bd>:16: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  tcs_data['Daily Return'] = tcs_data['Close'].pct_change()
```

```
Shape of the dataset:
(244, 15)

Column names:
MultiIndex([('ICICIBANK.NS',    'Open'),
            ('ICICIBANK.NS',    'High'),
            ('ICICIBANK.NS',     'Low'),
            ('ICICIBANK.NS',   'Close'),
            ('ICICIBANK.NS',  'Volume'),
            ( 'HDFCBANK.NS',    'Open'),
            ( 'HDFCBANK.NS',    'High'),
            ( 'HDFCBANK.NS',     'Low'),
            ( 'HDFCBANK.NS',   'Close'),
            ( 'HDFCBANK.NS',  'Volume'),
            ('KOTAKBANK.NS',    'Open'),
            ('KOTAKBANK.NS',    'High'),
            ('KOTAKBANK.NS',     'Low'),
            ('KOTAKBANK.NS',   'Close'),
            ('KOTAKBANK.NS',  'Volume')],
           names=['Ticker', 'Price'])

Summary statistics for KOTAK Bank:
Price          Open         High          Low        Close        Volume  \
count    244.000000   244.000000   244.000000   244.000000  2.440000e+02
mean    1601.375295  1615.443664  1588.221245  1601.898968  2.119658e+07
std      134.648125   134.183203   132.796819   133.748372  2.133860e+07
min     1357.463183  1372.754374  1345.180951  1365.404785  8.798460e+05
25%     1475.316358  1494.072805  1460.259509  1474.564087  1.274850e+07
50%     1627.724976  1638.350037  1616.000000  1625.950012  1.686810e+07
75%     1696.474976  1711.425018  1679.250000  1697.062531  2.295014e+07
max     1877.699951  1880.000000  1858.550049  1871.750000  2.226710e+08


Price   Daily Return
count     243.000000
mean        0.000392
std         0.014151
min        -0.084358
25%        -0.006986
50%         0.000703
75%         0.007460
max         0.046287
<ipython-input-52-7842b2fdd224>:16: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  infy_data['Daily Return'] = infy_data['Close'].pct_change()
```
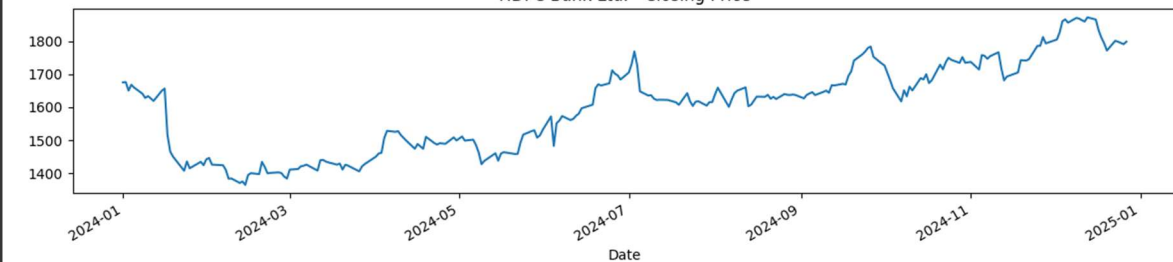
ICICI Bank Ltd - Closing Price

ICICI Bank Ltd - Daily Returns

Kotak Mahindra Bank Ltd. - Closing Price

Kotak Mahindra Bank Ltd. - Daily Returns