```
FILENAME REFFILE '/home/u63750051/Project/AIRTEL.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=AIRTEL;
    GETNAMES=YES;
RUN;

proc sort data=AIRTEL;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/APOLLOHOSP.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=APOLLOHOSP;
    GETNAMES=YES;
RUN;

proc sort data=APOLLOHOSP;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/BPCL.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=BPCL;
    GETNAMES=YES;
RUN;

proc sort data=BPCL;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/CIPLA.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=CIPLA;
    GETNAMES=YES;
RUN;

proc sort data=CIPLA;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/DABUR.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=DABUR;
    GETNAMES=YES;
RUN;

proc sort data=DABUR;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/DMART.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=DMART;
    GETNAMES=YES;
RUN;

proc sort data=DMART;
```

```
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/DRREDDY.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=DRREDDY;
    GETNAMES=YES;
RUN;

proc sort data=DRREDDY;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/EXPEDIA.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=EXPEDIA;
    GETNAMES=YES;
RUN;

proc sort data=EXPEDIA;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/GODREJPROP.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=GODREJPROP;
    GETNAMES=YES;
RUN;

proc sort data=GODREJPROP;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/HCLTECH.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=HCLTECH;
    GETNAMES=YES;
RUN;

proc sort data=HCLTECH;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/INDIAN_OIL.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=INDIAN_OIL;
    GETNAMES=YES;
RUN;

proc sort data=INDIAN_OIL;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/INDIGO.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=INDIGO;
    GETNAMES=YES;
RUN;
```

```
proc sort data=INDIGO;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/JETAIRWAYS.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=JETAIRWAYS;
    GETNAMES=YES;
RUN;

proc sort data=JETAIRWAYS;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/META.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=META;
    GETNAMES=YES;
RUN;

proc sort data=META;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/MHRIL.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=MHRIL;
    GETNAMES=YES;
RUN;

proc sort data=MHRIL;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/M_M.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=M_M;
    GETNAMES=YES;
RUN;

proc sort data=M_M;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/NFLX.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=NFLX;
    GETNAMES=YES;
RUN;

proc sort data=NFLX;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/OBEROIRLTY.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=OBEROIRLTY;
```

```
    GETNAMES=YES;
RUN;

proc sort data=OBEROIRLTY;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/RCOMMUNICATION.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=RCOMMUNICATION;
    GETNAMES=YES;
RUN;

proc sort data=RCOMMUNICATION;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/RINDUSTRIES.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=RINDUSTRIES;
    GETNAMES=YES;
RUN;

proc sort data=RINDUSTRIES;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/SPICEJET.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=SPICEJET;
    GETNAMES=YES;
RUN;

proc sort data=SPICEJET;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/TAJGVK.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=TAJGVK;
    GETNAMES=YES;
RUN;

proc sort data=TAJGVK;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/TCS.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=TCS;
    GETNAMES=YES;
RUN;

proc sort data=TCS;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/ZEEL.csv';
```

```
PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=ZEEL;
    GETNAMES=YES;
RUN;

proc sort data=ZEEL;
    by Date;
run;

FILENAME REFFILE '/home/u63750051/Project/ZOOM.csv';

PROC IMPORT DATAFILE=REFFILE DBMS=CSV OUT=ZOOM;
    GETNAMES=YES;
RUN;

proc sort data=ZOOM;
    by Date;
run;

/*CHANGE OF FORMAT IN EXCHANGERATE*/
data ExchangeRate;
    SET myfiles.ExchangeRate;
    format date ddmmyy10.;
run;

/*FOR META*/
data META;
    set META;
    format Date ddmmyy10.;
    informat Date ddmmyy10.;
run;

data META;
    merge META ExchangeRate;
RUN;

proc sql;
    create table META as select *, Close * Price as Close_INR from META;
quit;

proc export data=META outfile='/home/u63750051/Project/New Folder/META.xlsx'
        dbms=xlsx replace;
run;

/*FOR NETFLIX*/
data NETFLIX;
    SET NFLX;
    drop price;
    format date ddmmyy10.;
    informat Date ddmmyy10.;
run;

data Netflix;
    merge NETFLIX ExchangeRate;
RUN;

proc sql;
    create table Netflix as select *, Close * Price as Close_INR from Netflix;
```

```
quit;

proc export data=Netflix
        outfile='/home/u63750051/Project/New Folder/Netflix.xlsx' dbms=xlsx replace;
run;

/*for ZOOM*/
data zoom;
    SET zoom;
    format date ddmmyy10.;
    informat Date ddmmyy10.;
    drop Price;
run;

data zoom;
    merge zoom ExchangeRate;
    drop price;
RUN;

proc sql;
    create table zoom as select *, Close * Price as Close_INR from zoom;
quit;

proc export data=zoom outfile='/home/u63750051/Project/New Folder/zoom.xlsx'
        dbms=xlsx replace;
run;

/*FINAL MERGED DATASET IMPORT*/
proc sort data=myfiles.Dataset;
    by Name;
run;

data DataFrame;
    SET myfiles.Dataset;
    informat Date date9.;
run;

ods rtf file="/home/u63750051/Project/New Folder/okayyy.rtf";

/*summery of data*/
proc means data=dataframe;
    var Close;
    class Name;
run;

PROC CORR DATA=dataframe;
    VAR Close date;
run;

PROC univariate DATA=dataframe;
    VAR Close date;
    class Name;
run;

/* Plot close prices */
proc sgplot data=DataFrame;
    by Name;
    ods graphics on / width=10.25in outputfmt=gif imagemap=on
```

```
        imagename="MyBoxplot" border=off;
    title 'Historical Closing Price Of The Stock';
    series x=Date y=Close / markers;
    xaxis label='Date' interval=Month;
    yaxis label='Close Prices';
run;

proc export data=DataFrame
        outfile='/home/u63750051/Project/New Folder/plots.xlsx' dbms=xlsx replace;
run;

/* density function estimation */
proc kde data=DataFrame;
    by Name;
    univar Close / plots=density;
run;

proc sgplot data=DataFrame;
    by Name;
    series x=Date y=Close / lineattrs=(thickness=2);
    scatter x=Date y=Open / group=Name markerattrs=(symbol=circleFilled)
        transparency=0.7;
    scatter x=Date y=Low / group=Name markerattrs=(symbol=barDownFilled)
        transparency=0.7;
    scatter x=Date y=High / group=Name markerattrs=(symbol=barUpFilled)
        transparency=0.7;
    xaxis label="Date" interval=month labelattrs=(color=blue);
    yaxis label="Price";
    keylegend / position=topright;
run;

/* Run Augmented Dickey-Fuller (ADF) Test */
PROC ARIMA DATA=DataFrame;
    by Name;
    IDENTIFY VAR=Close STATIONARITY=(ADF);
    RUN;
QUIT;

proc sort data=dataframe;
    by Name;
run;

/* Step 2: Estimate ARIMA Models and Generate Forecasts */
proc arima data=DataFrame;
    by Name;
    identify var=Close(2);
    estimate p=2 q=2 method=ml;
    forecast lead=12 id=Date interval=month out=forecast_out;

    /* Corrected forecast statement */
    run;

    /* Output Results */
proc export data=forecast_out;
    outfile='forecasted_data.csv';
    dbms=csv replace;
run;
```

```
/* Create Graphs */
proc sgplot data=Forecast_out;
    by Name;
    series x=Date y=Close / lineattrs=(color=blue);
    series x=Date y=FORECAST / lineattrs=(color=red pattern=dash);
    format Date date9.;
    title 'Historical Prices with Forecasted Values';
    keylegend / location=inside position=topright;
run;

ods rtf close;
```