## Forecast the Retail Food & Beverages Sales: Seasonal ARIMA model in SAS

/\*Create your own library in SAS like here it is libref and

mention the path of your data\*/

libname libref “/folders/myfolders/”;

/\*Importing final\_sales dataset\*/

PROC IMPORT DATAFILE = “C:/data/final\_sales.csv”

DBMS=CSV

OUT=libref.sales;

GETNAMES=YES;

RUN;

/\* To check the contents of the data\*/

PROC CONTENTS DATA = libref.sales;

RUN;

/\*plotting time series\*/

proc timeseries data = libref.sales plot=series;

id Period interval = month;

var Sales;

run;

/\*checking for non stationarity by Augmented Dicky Fuller

Test and looking at Auto correlation function \*/

proc arima data = libref.sales;

identify var =sales stationarity= (adf);

run;

/\*Converting series into stationary by trend and seasonal differencing\*/

proc arima data = libref.sales;

identify var = sales(1,12) stationarity = (adf) ;

run;

/\*Fitting seasonal ARIMA model for the retail sales\*/

/\*by the maximum likelihood method\*/

**Program1:**

proc arima data = libref.sales;

identify var = sales(1,12) stationarity= (adf) ;

estimate p = (2)(12) q = (1)(12) method = ml;

/\*Forecasting next 30 months\*/

forecast lead = 30 interval = month id = Period

printall out = libref.pred\_results;

run;

/\*Fitting seasonal ARIMA model for the retail sales with different non seasonal terms\*/

/\*by the maximum likelihood method\*/

**Program2:**

proc arima data = libref.sales;

identify var = sales(1,12) stationarity= (adf) ;

estimate p = (6)(12) q = (1)(12) method = ml;

/\*Forecasting next 30 months\*/

forecast lead = 30 interval = month id = Period

printall out = libref.pred\_output;

run;