/\*SAS PROJECT\*/

/\* STEP 1: CREATING THE LIBRARY FOR THE DATSET \*/

LIBNAME LOGISTIC "C:\Documents and Settings\STD\Desktop\";

**RUN**;

/\* STEP 2: IMPORTING THE DATASET \*/

**PROC** **IMPORT** OUT= LOGISTIC.CROSSSELL

DATAFILE= "C:\Documents and Settings\STD\Desktop\Cross Sell N.csv"

DBMS=CSV REPLACE;

GETNAMES=YES;

DATAROW=**2**;

**RUN**;

**PROC** **MEANS** DATA= LOGISTIC.CROSSSELL NMISS;**RUN**;

/\* STEP 3=> PART 1: FINECLASSING FOR CATEGORICAL VARIABLE\*/

**%MACRO** FINE\_CLASS (DSN,DEPVAR,TOT\_RESP,TOT\_NRESP,CLASS\_VAR,GRPS);

PROC SQL;

CREATE TABLE FINE\_CLASSED AS SELECT

COUNT(\*) AS NOBS,

MIN(&CLASS\_VAR.) AS MIN\_VAL,

MAX(&CLASS\_VAR.) AS MAX\_VAL,

SUM(CASE WHEN &DEPVAR. = **1** THEN **1** ELSE **0** END) AS RESP,

SUM(CASE WHEN &DEPVAR. = **0** THEN **1** ELSE **0** END) AS NRESP

FROM &DSN

GROUP BY &CLASS\_VAR;

QUIT;

DATA FINE\_CLASSED1;

SET FINE\_CLASSED;

TOT\_RESP=&TOT\_RESP.;

TOT\_NRESP=&TOT\_NRESP.;

WOE=LOG(((RESP/TOT\_RESP)+**0.000000001**)/((NRESP/TOT\_nRESP)+**0.000000001**));

IV=((RESP/TOT\_RESP)-(NRESP/TOT\_NRESP))\*WOE\***100**;

RUN;

PROC PRINT DATA = FINE\_CLASSED1;RUN;

/\*PROC DELETE DATA = FINE\_CLASSED1;\*/

/\*PROC DELETE DATA = FINE\_CLASSED;\*/

/\*PROC DELETE DATA = BIN\_DSN;RUN;\*/

**%MEND**;

/\*Part 2:FINECLASSING FOR CONTINUOUS VARIABLES \*/

**%MACRO** FINE\_CLASS (DSN,DEPVAR,TOT\_RESP,TOT\_NRESP,CLASS\_VAR,GRPS);

PROC RANK DATA =&DSN. GROUPS=&GRPS. OUT=BIN\_DSN;

VAR &CLASS\_VAR.;

RANKS BIN;

RUN;

PROC SQL;

CREATE TABLE FINE\_CLASSED AS SELECT

COUNT(\*) AS NOBS,

MIN(&CLASS\_VAR.) AS MIN\_VAL,

MAX(&CLASS\_VAR.) AS MAX\_VAL,

SUM(CASE WHEN &DEPVAR. = **1** THEN **1** ELSE **0** END) AS RESP,

SUM(CASE WHEN &DEPVAR. = **0** THEN **1** ELSE **0** END) AS NRESP

FROM BIN\_DSN

GROUP BY BIN;

QUIT;

DATA FINE\_CLASSED1;

SET FINE\_CLASSED;

TOT\_RESP=&TOT\_RESP.;

TOT\_NRESP=&TOT\_NRESP.;

WOE=LOG(((RESP/TOT\_RESP)+**0.000000001**)/((NRESP/TOT\_nRESP)+**0.000000001**));

IV=((RESP/TOT\_RESP)-(NRESP/TOT\_NRESP))\*WOE\***100**;

RUN;

PROC PRINT DATA = FINE\_CLASSED1;RUN;

/\*PROC DELETE DATA = FINE\_CLASSED1;\*/

/\*PROC DELETE DATA = FINE\_CLASSED;\*/

/\*PROC DELETE DATA = BIN\_DSN;RUN;\*/

**%MEND**;

/\* COUNTING THE ROWS WITH THE DEPENDENT VARIABLE AS 1 IN Logistic.Crosssell -11175\*/

**PROC** **SQL**;

CREATE TABLE LOGISTIC.L AS SELECT \* FROM Logistic.Crosssell;

SELECT COUNT (\*) FROM LOGISTIC.L WHERE INS=**1**;

**QUIT**;

/\* COUNTING THE ROWS WITH THE DEPENDENT VARIABLE AS 0 IN Logistic.DEV -21089\*/

**PROC** **SQL**;

CREATE TABLE LOGISTIC.L AS SELECT \* FROM Logistic.Crosssell;

SELECT COUNT (\*) FROM Logistic.L WHERE INS=**0**;

**QUIT**;

**PROC** **MEANS** DATA= LOGISTIC.CROSSSELL NMISS;**RUN**;

/\*CHECKING FOR THE IV VALUES FOR EACH VARIABLE \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\IV\_VALUES.XLS";

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,ACCTAGE,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,DDABal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CashBk,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Checks,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,NSFAmt,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Phone,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Teller,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,SavBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,ATMAmt,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,POS,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,POSAmt,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CDBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,IRABal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,LOCBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,ILSBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,MMBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,MMCred,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,MTGBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CCBal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CCPurc,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Income,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,LORes,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,HMVal,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Age,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CRScore,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Branch,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Res,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,Dep,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,DepAmt,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,InvBal,**10**);

ODS HTML CLOSE;

/\* RE-CALLING THE MACRO ONLY FOR THE VARIABLES WITH IV-VALUE BETWEEN 0.1-0.5 \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\FINAL\_IV.XLS";

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,DDABAL,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,SAVBAL,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,ATMAMT,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,CDBAL,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,MMBAL,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,AGE,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,DEP,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,DEPAMT,**10**);

%***FINE\_CLASS***(LOGISTIC.CROSSSELL,INS,**11175**,**21089**,PHONE,**10**);

ODS HTML CLOSE;

/\* COARSE CLASSING FOR SELECTED VARIABLES \*/

/\* CHECKING THE MISSING VALUES FOR ALL VARIABLES \*/

**PROC** **MEANS** DATA= LOGISTIC.CROSSSELL NMISS;**RUN**;

/\* MISSING VALUES TREATMENT FOR VARIABLES WHICH HAVE VALID IV-VALUEs \*//\* COARSE CLASSING\*/

/\* CREATING A NEW COLUMN WITH THE NEW WOE VARIABLE \*/

**DATA** logistic.Crosssell;

SET logistic.Crosssell;

/\* DDABAL \*/

IF DDABAL=**.** THEN DDABAL\_WOE=**0**;

IF DDABAL>= -**774.83** AND DDABAL<=**315.66** THEN DDABAL\_WOE= -**0.0128619**;

IF DDABAL>=**315.71** AND DDABAL<=**1441.3** THEN DDABAL\_WOE= -**0.0567687**;

IF DDABAL>=**1441.34** AND DDABAL<=**278093.83** THEN DDABAL\_WOE= **0.06842919**;

/\* SAVBAL \*/

IF SAVBAL=**.** THEN SAVBAL\_WOE=**0**;

IF SAVBAL>= **0** AND SAVBAL<= **53.12** THEN SAVBAL\_WOE= -**0.0916731**;

IF SAVBAL>= **53.15** AND SAVBAL<=**2309.94** THEN SAVBAL\_WOE= -**0.0182168**;

IF SAVBAL>=**2310.88** AND SAVBAL<=**700026.94** THEN SAVBAL\_WOE= **0.15033686**;

/\* ATMAmt \*/

IF ATMAmt=**.** THEN ATMAmt\_WOE=**0**;

IF ATMAmt>= **0** AND ATMAmt<= **136.22** THEN ATMAmt\_WOE= **0.04257906**;

IF ATMAmt>= **136.33** AND ATMAmt<= **1613.47** THEN ATMAmt\_WOE= -**0.0675103**;

IF ATMAmt>= **1613.5** AND ATMAmt<= **427731.26** THEN ATMAmt\_WOE= **0.01343602**;

/\* CDBAL \*/

IF CDBAL=**.** THEN CDBAL\_WOE=**0**;

IF CDBAL = **0** THEN CDBAL\_WOE=-**0.16608**;

IF CDBAL>=**300** AND CDBAL<= **4800** THEN CDBAL\_WOE= **1.17083**;

IF CDBAL>=**4900** AND CDBAL<= **1053900** THEN CDBAL\_WOE= **1.00986**;

/\* MMBAL \*/

IF MMBAL=**.** THEN MMBAL\_WOE=**0**;

IF MMBAL = **0** THEN MMBAL\_WOE= -**0.12551**;

IF MMBAL>= **940.92** AND MMBAL<=**14816.66** THEN MMBAL\_WOE= **1.1849**;

IF MMBAL>=**14816.96** AND MMBAL<= **120801.11** THEN MMBAL\_WOE=**0.83537**;

/\* AGE \*/

IF AGE = **.** THEN AGE\_WOE = **0.021595**;

IF AGE>= **16** AND AGE<= **43** THEN AGE\_WOE= -**0.007097279**;

IF AGE>= **44** AND AGE <= **55** THEN AGE\_WOE= **0.003062297**;

IF AGE>= **56** AND AGE <= **94** THEN AGE\_WOE= **0.002128133**;

/\* DEP \*/

IF DEP=**.** THEN DEP\_WOE=**0**;

IF DEP>= **0** AND DEP <= **1** THEN DEP\_WOE= **0.06248259**;

IF DEP>= **2** AND DEP <= **3** THEN DEP\_WOE= -**0.0246289**;

IF DEP>= **4** AND DEP <= **28** THEN DEP\_WOE= -**0.0454841**;

/\* DEPAMT \*/

IF DEPAMT=**.** THEN DEPAMT\_WOE=**0**;

IF DEPAMT>= **0** AND DEPAMT <= **730.5** THEN DEPAMT\_WOE= **0.02288863**;

IF DEPAMT>= **730.57** AND DEPAMT <= **2942.94** THEN DEPAMT\_WOE= -**0.0360238**;

IF DEPAMT>= **2943.27** AND DEPAMT <= **484893.67** THEN DEPAMT\_WOE= **0.01595843**;

/\* PHONE \*/

IF PHONE=**.** THEN PHONE\_WOE=-**0.44204**;

IF PHONE= **0** THEN PHONE\_WOE=**0.17858**;

IF PHONE>= **1** AND PHONE<=**30** THEN PHONE\_WOE=-**0.052335621**;

**RUN**;

**PROC** **MEANS** DATA= logistic.crosssell NMISS;**RUN**;

/\* MISSING VALUES TREATMENT IS DONE FOR CATEGORICAL & CONTINOUS VARIABLES. \*/

/\* PART 3: Check missing values for binary variables\*/

**PROC** **MEANS** DATA= LOGISTIC.CROSSSELL NMISS;

VAR

DDA

DirDep

NSF Sav ATM CD IRA LOC ILS MM MTG CC SDB HMOwn Moved InArea Inv;

**RUN**;

/\* HENCE THE MISSING VALUE FOUND IN 3 BINARY INDEPENDENT VARIABLES :

CC = 4133

HMOWN = 5533 & INV = 4133 ; SINCE, THE MISSING VALUES CAN BE TREATED ONLY IF THEY REPRESENT LESS THAN 2-3% OF THE DATA.

HERE, IT IS MORE THAN 10%.

HENCE, THESE 3 VARIABLES CANNOT BE CONSIDERED FOR MODELING=> NO MISSING VALUE TREATMENT IS REQUIRED. \*/

/\* STEP 4: DIVIDING THE DATASET INTO DEV AND VAL DATASETS \*/

**DATA** Logistic.DEV Logistic.VAL;

SET Logistic.Crosssell;

IF RANUNI(**1000**)<= **0.7** THEN OUTPUT Logistic.DEV;

ELSE OUTPUT Logistic.VAL;

**RUN**;

/\* -------------------FITTING THE MODEL FOR DEV DATASET--------------------\*/

/\* MULTICOLLINEARITY CHECK - ELIMINATING VARIABLES BASED ON VIF VALUES \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF DDA Sav ATM CD MM MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE CD\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG1\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF DDA Sav ATM /\*CD\*/ MM MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE MM\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG2\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF DDA Sav ATM /\*CD MM\*/ MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE ATM\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG3\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF DDA Sav /\*ATM\*/ /\*CD MM\*/ MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE SAV\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG4\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF DDA /\*Sav\*/ /\*ATM\*/ /\*CD MM\*/ MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE DDA\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG5\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP NSF /\*DDA\*/ /\*Sav\*/ /\*ATM\*/ /\*CD MM\*/ MOVED LOC MTG ILS SDB IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\*REMOVE NSF,MOVED,LOC,MTG,ILS,SDB\*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG6\_DEV.XLS";

**PROC** **REG** DATA=logistic.Dev;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP /\*NSF\*/ /\*DDA\*/ /\*Sav\*/ /\*ATM\*/ /\*CD MM\*/ /\*MOVED LOC MTG ILS SDB\*/ IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\* P-VALUE CHECK - ELIMINATING VARIABLES BASED ON HIGHER P VALUES \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\LOGISTIC\_DEV.XLS";

ODS GRAPHICS ON;

**PROC** **LOGISTIC** DATA=logistic.Dev DESCENDING PLOTS=ALL ; /\* FOR ALL THE PLOTS FOR DEV-DATASET\*/

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP IRA InArea

/LACKFIT RSQ; /\* H.L test\*/

OUTPUT OUT = logistic.OUT P = PRED;

**QUIT**;

**RUN**;

ODS GRAPHICS OFF;

ODS HTML CLOSE;

/\* CHECKING FOR THE RANK ORDERING IN THE KS STATISITCS TABLE \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\KSTAT\_DEV.XLS";

%***ksgcf***(logistic.OUT,PRED,INS,**10**,RO);

ODS HTML CLOSE;

/\* DIVERGENCE \*/

**DATA** logistic.OUT;

SET logistic.OUT;

SCORE = ROUND(PRED\***1000**);

**RUN**;

/\* DIVERGENCE TEST \*/

ODS HTML FILE = "C:\Documents and Settings\STD\Desktop\DIVERGENCE\_DEV.XLS";

**PROC** **TTEST** DATA = logistic.OUT;

VAR SCORE;

CLASS INS;

**RUN**;

ODS HTML CLOSE;

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* WORKING WITH THE VALIDATION DATASET (Logistic.VAL) /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

/\* -------------------FITTING THE MODEL FOR VAL DATASET--------------------\*/

/\* MULTICOLLINEARITY CHECK - ELIMINATING VARIABLES BASED ON VIF VALUES \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\REG\_VAL.XLS";

**PROC** **REG** DATA=logistic.VAL;

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

/\* AGE\_WOE \*/

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP /\* NSF DDA Sav ATM CD MM MOVED LOC MTG ILS\*/IRA InArea

/ VIF COLLIN; **RUN**;

ODS HTML CLOSE;

/\* P-VALUE CHECK - ELIMINATING VARIABLES BASED ON HIGHER P VALUES \*/

ODS HTML FILE="C:\Documents and Settings\STD\Desktop\LOGISTIC\_VAL.XLS";

ODS GRAPHICS ON;

**PROC** **LOGISTIC** DATA=logistic.VAL DESCENDING PLOTS=ALL; /\* FOR ALL THE PLOTS FOR VAL-DATASET\*/

MODEL INS=

DDABAL\_WOE

SAVBAL\_WOE

MMBAL\_WOE

CDBAL\_WOE

PHONE\_WOE

ATMAmt\_WOE

DEP\_WOE

/\*Binary Variables\*/

DIRDEP IRA InArea

/LACKFIT RSQ; /\* H.L test\*/

OUTPUT OUT = logistic.OUT\_VAL P = PRED\_VAL;

**QUIT**;

**RUN**;

ODS GRAPHICS OFF;

ODS HTML CLOSE;

/\*

After running the code on Validation data =>

Scoring by Using MLE table from PROC Logistic of development data to get the coefficients. \*/

/\*SCORING\*/

**DATA** logistic.VAL1;

SET logistic.VAL;

/\*L = A+B1X1+B2X2+...+BKXK;\*/

L= -**0.3004** + DDABal\_WOE\* **5.9539**+ SAVBAL\_WOE\* **6.6126**+ MMBAL\_WOE\***0.9256** + CDBAL\_WOE\***0.7414**+PHONE\_WOE\***1.0805**+

ATMAMT\_WOE\* **2.9446** +DEP\_WOE\***2.2325** + DIRDEP\*(-**0.2358**)+

IRA\***0.4829**+ INAREA\*(-**0.2881**);

PE = EXP(L)/(**1**+EXP(L));

**RUN**;

/\* CHECKING IF RANK IS SATISFACTORY \*/

ODS HTML FILE = "C:\Documents and Settings\STD\Desktop\KSTAT\_VAL2.xls";

%***KSGCF***(LOGISTIC.VAL1,PE,INS,**10**,RO);**run**;

ODS HTML CLOSE;

/\* RANK IS SATISFACTORY WITH 40.2 KS STATISTICS AND 0.2530 GINI MEASURE \*/

/\* ---------==> HENCE THE MODEL IS BUILT AND VERIFIED-----\*/

/\*##################################################----END OF THE CODE------#############################################################\*/