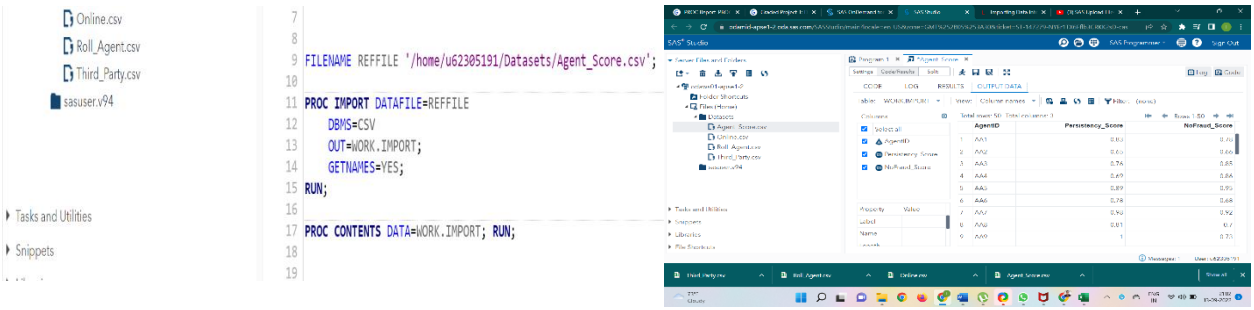
Great Learning SAS Assessment
Ishita Sarkar

1. Import all the 4 files in SAS data environment

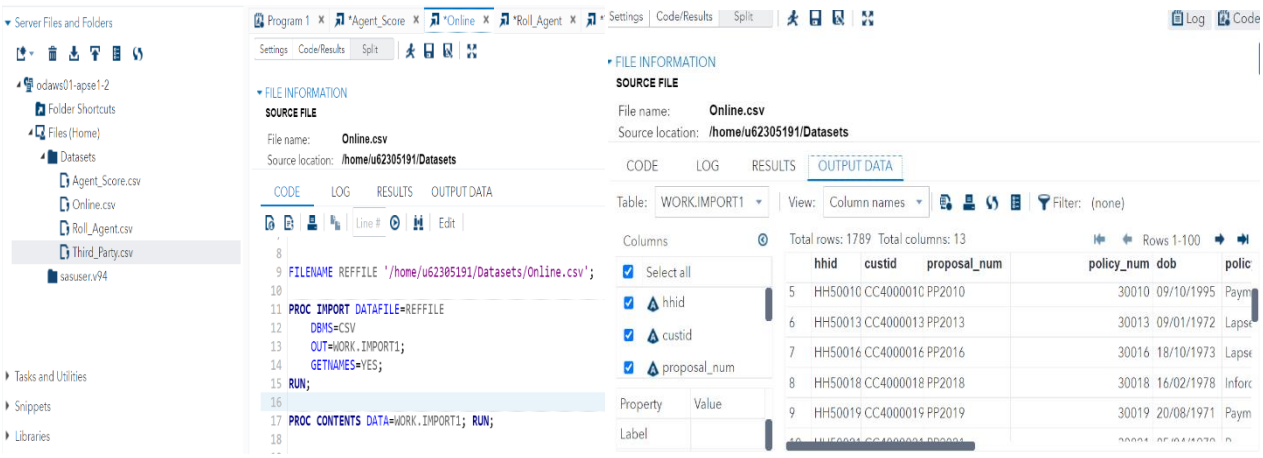
Importing First file

```
FILENAME REFFILE '/home/u62305191/Datasets/Agent_Score.csv';
PROC IMPORT DATAFILE=REFFILE
        DBMS=CSV
        OUT=SAS.Agent;
        GETNAMES=YES;
RUN;
PROC CONTENTS DATA= SAS.Agent; RUN;
```



Importing Second file

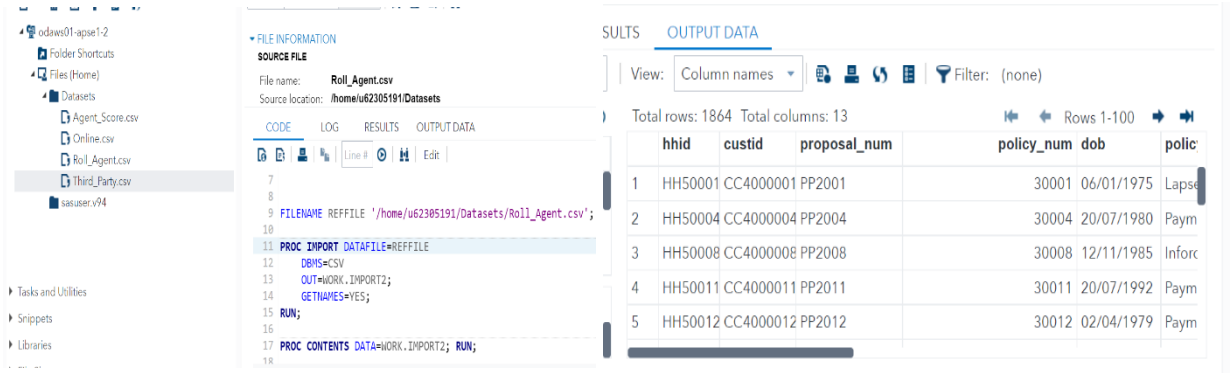
```
FILENAME REFFILE '/home/u62305191/Datasets/Online.csv';
PROC IMPORT DATAFILE=REFFILE
        DBMS=CSV
        OUT=SAS.Online;
        GETNAMES=YES;
RUN;
PROC CONTENTS DATA= SAS.Online; RUN;
```



Great Learning SAS Assessment
Ishita Sarkar

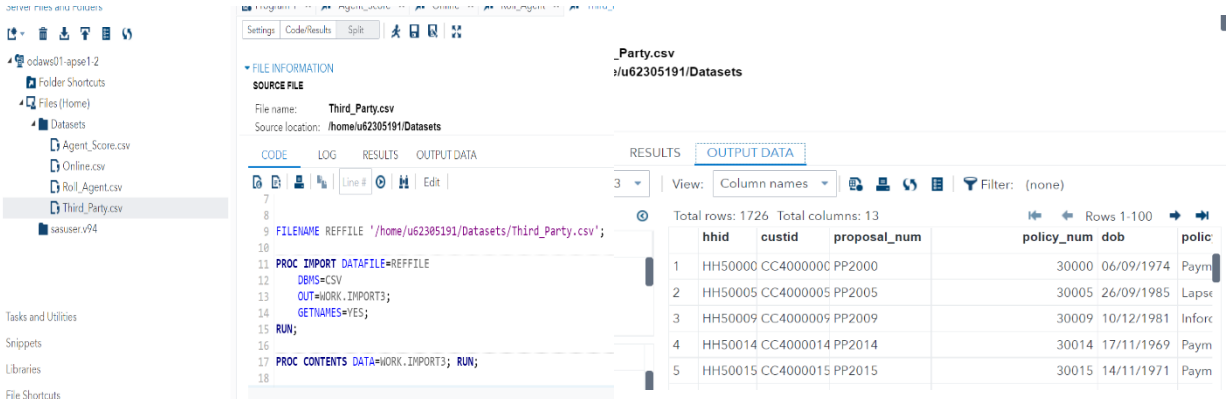
Importing Third file

```
FILENAME REFFILE '/home/u62305191/Datasets/Roll_Agent.csv';
PROC IMPORT DATAFILE=REFFILE
        DBMS=CSV
        OUT=SAS.Roll;
        GETNAMES=YES;
RUN;
PROC CONTENTS DATA= SAS.Roll; RUN;
```



Importing Fourth file

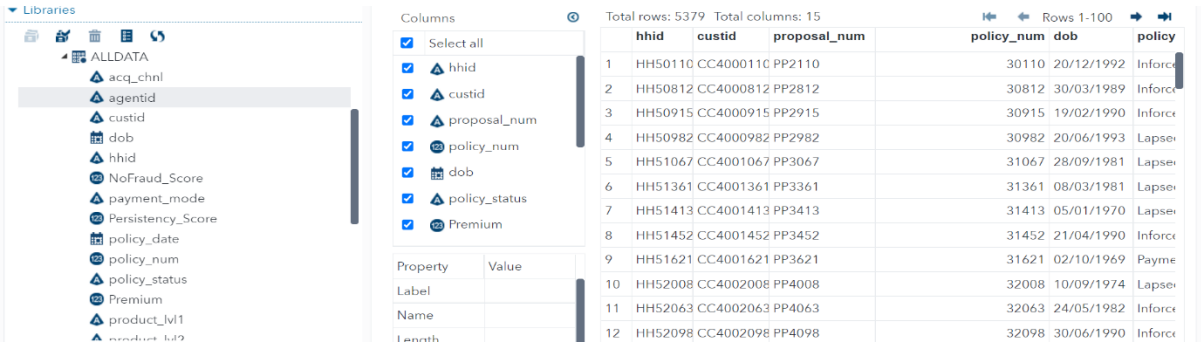
```
FILENAME REFFILE '/home/u62305191/Datasets/Third_Party.csv';
PROC IMPORT DATAFILE=REFFILE
        DBMS=CSV
        OUT=SAS.Third;
        GETNAMES=YES;
RUN;
PROC CONTENTS DATA= SAS.Third; RUN;
```



Great Learning SAS Assessment
Ishita Sarkar

2. **Create one dataset from all the 4 dataset?**

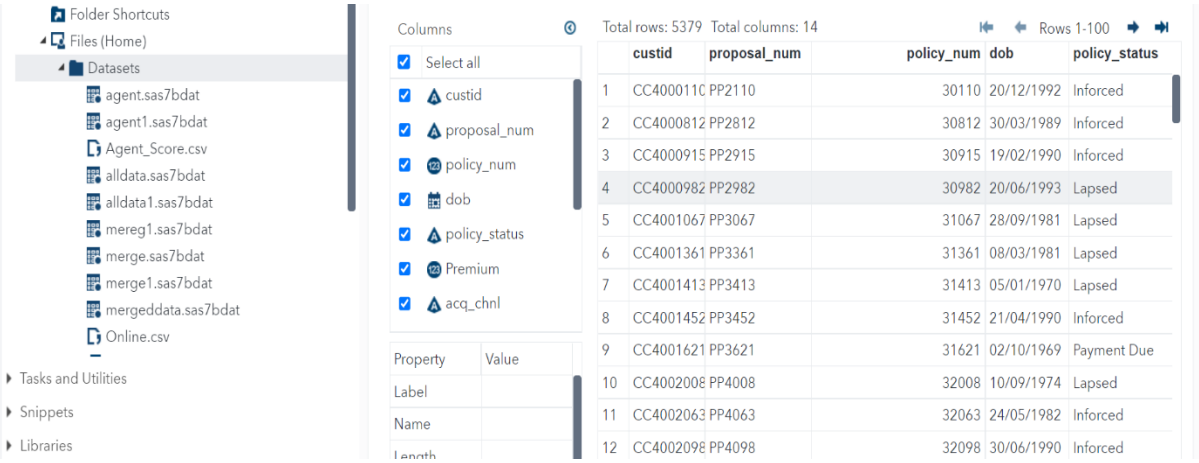
```
Data SAS.Merge;
set Online Third_Party Roll_Agent;
run;

/* sorting data using the agentid also using out statement to avoid overriding of data*/

proc sort data =SAS.Merge out=SAS.Merge1;
by agentid ;
run;

/* sorting the data using the agentid also using out statement to avoid overriding of data */

proc sort data =SAS.Agent out=SAS.Agent1;
by agentid ;
run;

/* merging data using the agentid and usin*/

data SAS.MergedData;
merge SAS.Merge1(in=a) SAS.Agent1(in=b);
by agentId;
if a;
run;
```



Great Learning SAS Assessment
Ishita Sarkar

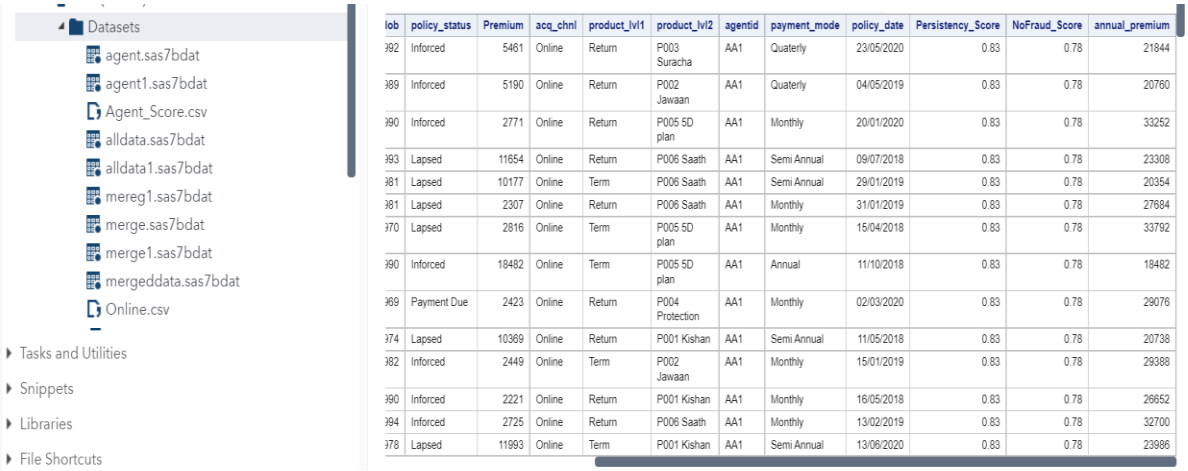
3. **Remove all unwanted ID variables?**

```
Data SAS.MergedData (drop=hhid);
set SAS.MergedData;
run;
```



4. **Calculate annual premium for all customers?**

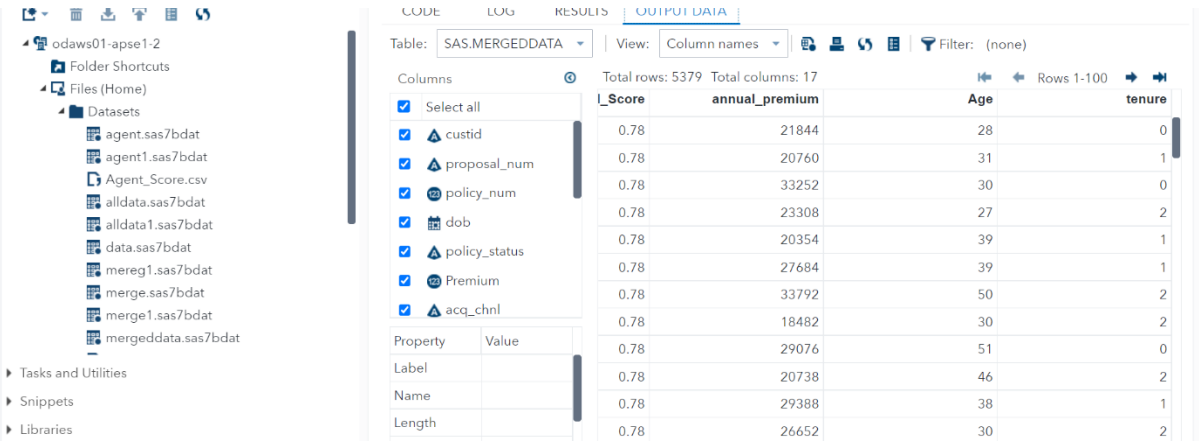
```
Data SAS.MergedData;
set SAS.MergedData;
if payment_mode = "Annual" then  annual_premium=premium;
else if payment_mode="Quaterly" then  annual_premium=premium*4;
else if payment_mode="Semi Annual" then  annual_premium=premium*2;
else if payment_mode="Monthly" then annual_premium=premium*12;
run;
proc print data=SAS.MergedData;
```



Great Learning SAS Assessment
Ishita Sarkar

5. **Calculate age and tenure as of 31 July 2020 for all customers?**

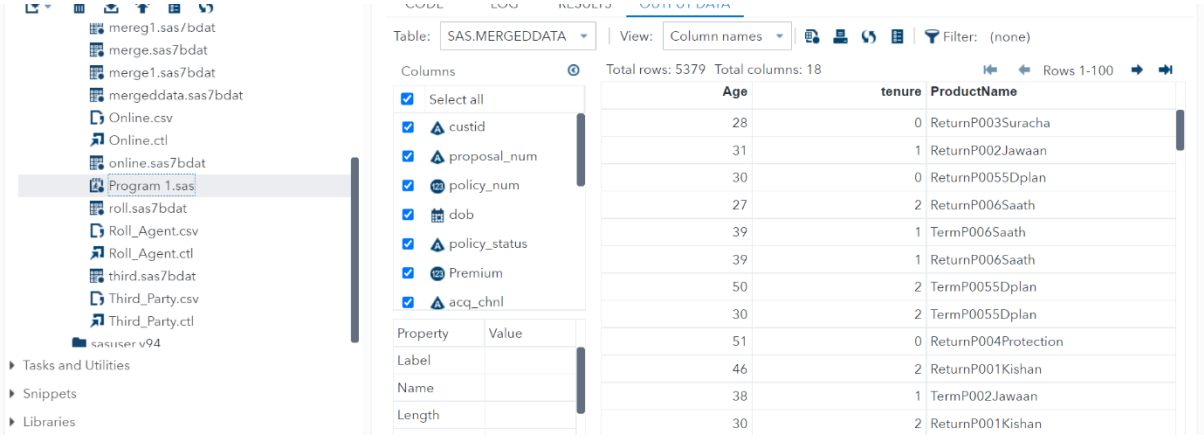
```
Data SAS.MergedData (drop=temp);
set SAS.MergedData;
temp='31jul2020'd;
format temp ddmmyy10.;
Age=intck('year',dob,temp);
tenure=intck('year',policy_date,temp);
run;
```



6. **Create a product name by using both level of product information. And product name should be representable i.e. no code should be present in final product name?**

```
Data SAS.MergedData ;
set SAS.MergedData;
length ProductName $ 32;
ProductName=Compress(cat(product_lvl1,product_lvl2));
put ProductName=;
run;
```

Great Learning SAS Assessment
Ishita Sarkar



7. **After doing clean up in your data, you have to calculate the distribution of customers across product and policy status and interpret the result**

```
proc sort data=SAS.MergedData out=SAS.MergedData1;
by ProductName policy_Status;
run;
proc freq data=SAS.MergedData1;
table ProductName*policy_Status;
run;
```

The FREQ Procedure

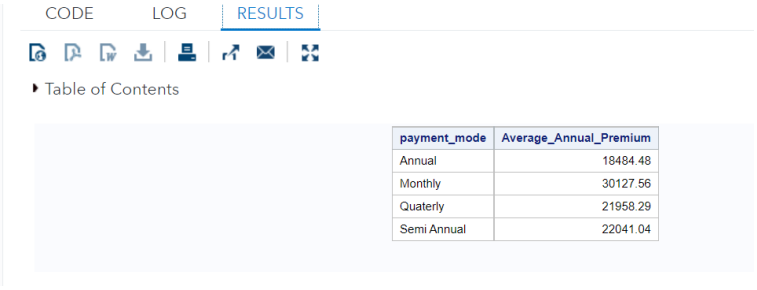
Table of ProductName by policy_status

ProductName	policy_status			
	Inforced	Lapsed	Payment Due	Total
ReturnP001Kishan	142 2.64 31.63 8.04	163 3.03 36.30 9.09	144 2.68 32.07 7.92	449 8.35
ReturnP002Jawaan	159 2.96 34.34 9.00	154 2.86 33.26 8.58	150 2.79 32.40 8.25	463 8.61
ReturnP003Suracha	142 2.64 32.42 8.04	137 2.55 31.28 7.64	159 2.96 36.30 8.75	438 8.14
ReturnP004Protection	151 2.81 33.71 8.55	145 2.70 32.37 8.08	152 2.83 33.93 8.36	448 8.33
ReturnP0055Dplan	148 2.75 32.89 8.38	150 2.79 33.33 8.36	152 2.83 33.78 8.36	450 8.37
ReturnP006Saath	143 2.66	147 2.73	164 3.05	454 8.44

Great Learning SAS Assessment
Ishita Sarkar

8. **Calculate Average annual premium for different payment mode and interpret the result?**

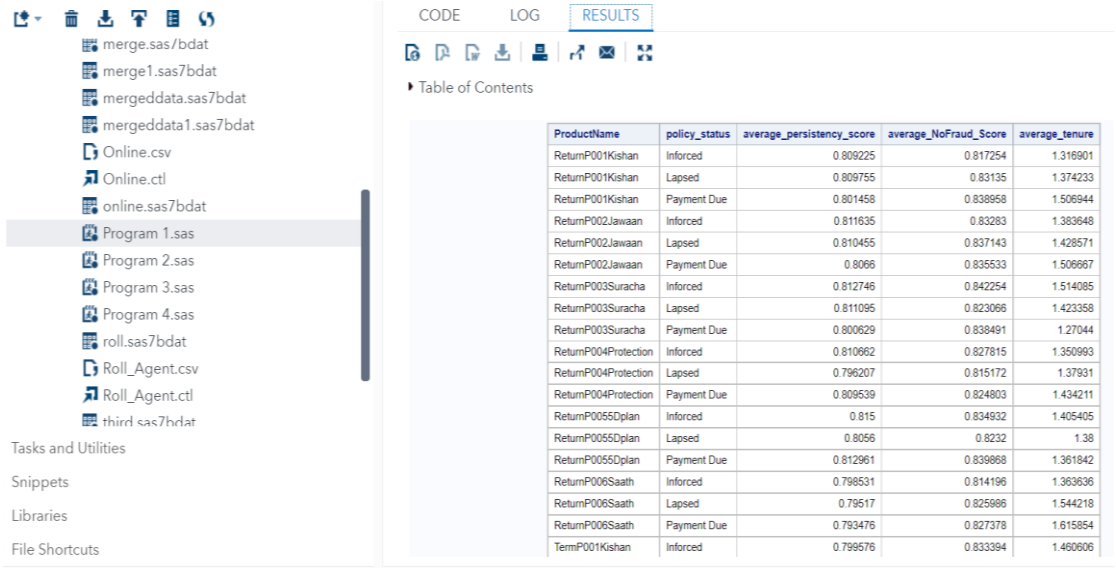
```
proc sql;
select payment_mode,avg(annual_premium)As Average_Annual_Premium
from SAS.MergedData1
group by payment_mode;
run;
```



payment_mode	Average_Annual_Premium
Annual	18484.48
Monthly	30127.56
Quaterly	21958.29
Semi Annual	22041.04

9. **Calculate Average persistency score, no fraud score and tenure of customers across product and policy status, and interpret the result?**

```
proc sql ;
select productName,policy_status,avg(persistency_score)as average_persistency_score,
avg(NoFraud_Score)as average_NoFraud_Score,avg(tenure) as average_tenure
from SAS.MergedData1
group by productName,policy_status;
run;
```

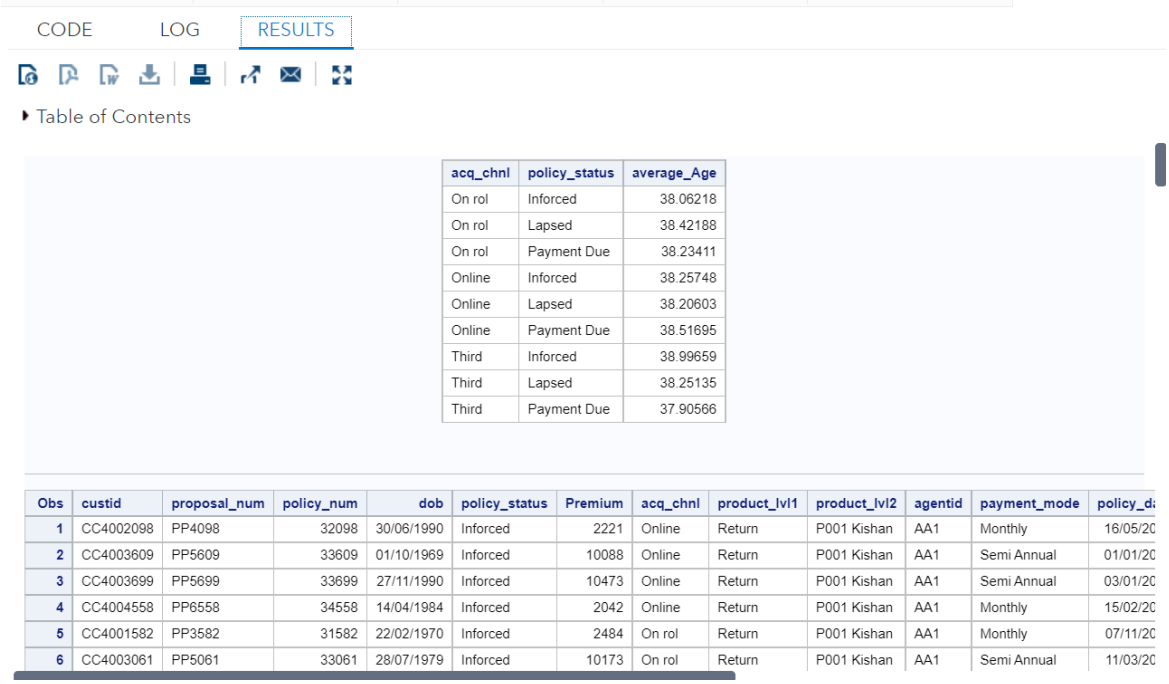


ProductName	policy_status	average_persistency_score	average_NoFraud_Score	average_tenure
ReturnP001Kishan	Inforced	0.809225	0.817254	1.316901
ReturnP001Kishan	Lapsed	0.809755	0.83135	1.374233
ReturnP001Kishan	Payment Due	0.801458	0.838958	1.506944
ReturnP002Jawaan	Inforced	0.811635	0.83283	1.383648
ReturnP002Jawaan	Lapsed	0.810455	0.837143	1.428571
ReturnP002Jawaan	Payment Due	0.8066	0.835533	1.506667
ReturnP003Suracha	Inforced	0.812746	0.842254	1.514085
ReturnP003Suracha	Lapsed	0.811095	0.823066	1.423358
ReturnP003Suracha	Payment Due	0.800629	0.838491	1.27044
ReturnP004Protection	Inforced	0.810662	0.827815	1.350993
ReturnP004Protection	Lapsed	0.796207	0.815172	1.37931
ReturnP004Protection	Payment Due	0.809539	0.824803	1.434211
ReturnP0055Dplan	Inforced	0.815	0.834932	1.405405
ReturnP0055Dplan	Lapsed	0.8056	0.8232	1.38
ReturnP0055Dplan	Payment Due	0.812961	0.839868	1.361842
ReturnP006Saath	Inforced	0.798531	0.814196	1.363636
ReturnP006Saath	Lapsed	0.79517	0.825986	1.544218
ReturnP006Saath	Payment Due	0.793476	0.827378	1.615854
TermP001Kishan	Inforced	0.799576	0.833394	1.460606

Great Learning SAS Assessment
Ishita Sarkar

10. Calculate Average age of customer across acquisition channel and policy status, and interpret the result?

```
roc sql;
select acq_chnl,policy_Status,avg(age) as average_Age
from SAS.MergedData1
group by acq_chnl ,policy_status;
run;
proc print data=SAS.MergedData1;
```



acq_chnl	policy_status	average_Age
On rol	Inforced	38.06218
On rol	Lapsed	38.42188
On rol	Payment Due	38.23411
Online	Inforced	38.25748
Online	Lapsed	38.20603
Online	Payment Due	38.51695
Third	Inforced	38.99659
Third	Lapsed	38.25135
Third	Payment Due	37.90566

Obs	custid	proposal_num	policy_num	dob	policy_status	Premium	acq_chnl	product_lvl1	product_lvl2	agentid	payment_mode	policy_da
1	CC4002098	PP4098	32098	30/06/1990	Inforced	2221	Online	Return	P001 Kishan	AA1	Monthly	16/05/20
2	CC4003609	PP5609	33609	01/10/1969	Inforced	10088	Online	Return	P001 Kishan	AA1	Semi Annual	01/01/20
3	CC4003699	PP5699	33699	27/11/1990	Inforced	10473	Online	Return	P001 Kishan	AA1	Semi Annual	03/01/20
4	CC4004558	PP6558	34558	14/04/1984	Inforced	2042	Online	Return	P001 Kishan	AA1	Monthly	15/02/20
5	CC4001582	PP3582	31582	22/02/1970	Inforced	2484	On rol	Return	P001 Kishan	AA1	Monthly	07/11/20
6	CC4003061	PP5061	33061	28/07/1979	Inforced	10173	On rol	Return	P001 Kishan	AA1	Semi Annual	11/03/20