```
 1 *-------------------------------------------------------------
   -*
 2 User:                 grace
 3 Date:                 January 07, 2024
 4 Time:                 19:07:05
 5 *-------------------------------------------------------------
   -*
 6 * Training Output
 7 *-------------------------------------------------------------
   -*
 8
 9
10
11
12 Variable Summary
13
14           Measurement    Frequency
15 Role         Level         Count
16
17 ASSESS     NOMINAL            1
18 ID         INTERVAL           1
19 ID         UNARY              1
20 INPUT      INTERVAL          11
21 INPUT      NOMINAL            5
22 INPUT      ORDINAL            2
23 TARGET     BINARY             1
24
25
26
27
28 Model Events
29
30                                      Number
31                    Measurement         of
32 Target    Event       Level          Levels      Order       La
   bel
```

```
33
34 Churn       1        BINARY          2      Descending
35
36
37
38
39 Predicted and decision variables
40
41 Type         Variable    Label
42
43 TARGET       Churn
44 PREDICTED    P_Churn1    Predicted: Churn=1
45 RESIDUAL     R_Churn1    Residual: Churn=1
46 PREDICTED    P_Churn0    Predicted: Churn=0
47 RESIDUAL     R_Churn0    Residual: Churn=0
48 FROM         F_Churn     From: Churn
49 INTO         I_Churn     Into: Churn
50
51
52 *------------------------------------------------------------
   -*
53 * Score Output
54 *------------------------------------------------------------
   -*
55
56
57 *------------------------------------------------------------
   -*
58 * Report Output
59 *------------------------------------------------------------
   -*
60
61
62
63 Variable Importance
64
```

Variable Name	Label	Importance	Validation Importance	Ratio of Validation to Training Importance
IMP_Tenure	Imputed Tenure	1	1.0000	1.0000
CashbackAmount		1	0.4294	0.3664
Complain		2	0.3421	0.4116
IMP_WarehouseToHome	Imputed WarehouseToHome	1	0.2471	0.1919
SatisfactionScore		1	0.2259	0.3186
MaritalStatus		1	0.1961	0.1201
IMP_DaySinceLastOrder	Imputed DaySinceLastOrder	1	0.1724	0.1047

Tree Leaf Report

Node Id	Depth	Training Observations	Training Percent 1	Validation Observations	Validation Percent 1
2	1	521	0.84	218	0.83

```
 87  14        3            490          0.15            210
        0.15
 88  26        4             69          0.13             24
        0.04
 89  42        6             66          0.20             33
        0.33
 90  43        6             64          0.55             30
        0.57
 91  13        3             40          0.95             22
        0.86
 92  23        4             34          0.29             10
        0.20
 93  22        4             30          0.73             11
        0.55
 94  39        5             28          0.89             19
        0.79
 95
 96
 97
 98
 99 Fit Statistics
100
101 Target=Churn Target Label=' '
102
103    Fit
104 Statistics    Statistics Label                Train    Valid
    ation
105
106   _NOBS_      Sum of Frequencies           1342.00       57
    7.00
107   _MISC_      Misclassification Rate          0.17
    0.19
108   _MAX_       Maximum Absolute Error          0.95
    0.95
109   _SSE_       Sum of Squared Errors         364.29       16
    9.18
```

```
110   _ASE_       Average Squared Error            0.14
    0.15
111   _RASE_      Root Average Squared Error       0.37
    0.38
112   _DIV_       Divisor for ASE               2684.00      115
    4.00
113   _DFT_       Total Degrees of Freedom      1342.00
     .
114
115
116
117
118 Classification Table
119
120 Data Role=TRAIN Target Variable=Churn Target Label=' '
121
122                         Target        Outcome     Frequency
        Total
123 Target    Outcome    Percentage    Percentage      Count
      Percentage
124
125   0          0         84.2185       81.7378        555
       41.3562
126   1          0         15.7815       15.6863        104
        7.7496
127   0          1         18.1552       18.2622        124
        9.2399
128   1          1         81.8448       84.3137        559
       41.6542
129
130
131 Data Role=VALIDATE Target Variable=Churn Target Label=' '
132
133                         Target        Outcome     Frequency
        Total
134 Target    Outcome    Percentage    Percentage      Count
```

```
      Percentage
135
136   0          0         83.3935       79.1096        231
        40.0347
137   1          0         16.6065       16.1404         46
         7.9723
138   0          1         20.3333       20.8904         61
        10.5719
139   1          1         79.6667       83.8596        239
        41.4211
140
141
142
143
144 Event Classification Table
145
146 Data Role=TRAIN Target=Churn Target Label=' '
147
148   False       True        False       True
149 Negative    Negative    Positive    Positive
150
151    104         555         124         559
152
153
154 Data Role=VALIDATE Target=Churn Target Label=' '
155
156   False       True        False       True
157 Negative    Negative    Positive    Positive
158
159    46          231         61          239
160
161
162
163
164 Assessment Score Rankings
165
```

```
166 Data Role=TRAIN Target Variable=Churn Target Label=' '
167
168
                                    Mean
169                                 Cumulative        %       Cum
    ulative      Number of      Posterior
170 Depth      Gain       Lift        Lift       Response    % R
    esponse    Observations    Probability
171
172    5     87.5299    1.87530      1.87530      92.6471      9
    2.6471          68           0.92647
173   10     79.1056    1.70556      1.79106      84.2610      8
    8.4851          67           0.84261
174   15     76.2697    1.70556      1.76270      84.2610      8
    7.0841          67           0.84261
175   20     74.8465    1.70556      1.74846      84.2610      8
    6.3809          67           0.84261
176   25     73.9908    1.70556      1.73991      84.2610      8
    5.9582          67           0.84261
177   30     73.4197    1.70556      1.73420      84.2610      8
    5.6760          67           0.84261
178   35     73.0114    1.70556      1.73011      84.2610      8
    5.4743          67           0.84261
179   40     72.7050    1.70556      1.72705      84.2610      8
    5.3230          67           0.84261
180   45     71.9172    1.65603      1.71917      81.8145      8
    4.9338          67           0.81815
181   50     66.6478    1.19144      1.66648      58.8619      8
    2.3305          67           0.58862
182   55     57.0369    0.62200      1.57037      30.7292      7
    7.5823          68           0.30729
183   60     47.0082    0.36393      1.47008      17.9795      7
    2.6277          67           0.17979
184   65     38.0084    0.29742      1.38008      14.6939      6
    8.1815          67           0.14694
185   70     30.2916    0.29742      1.30292      14.6939      6
```

```
     4.3691          67           0.14694
186    75     23.6016    0.29742      1.23602      14.6939      6
     1.0640          67           0.14694
187    80     17.7463    0.29742      1.17746      14.6939      5
     8.1712          67           0.14694
188    85     12.5787    0.29742      1.12579      14.6939      5
     5.6182          67           0.14694
189    90      7.9843    0.29742      1.07984      14.6939      5
     3.3484          67           0.14694
190    95      3.8675    0.29643      1.03868      14.6446      5
     1.3146          67           0.14645
191   100      0.0000    0.26402      1.00000      13.0435      4
     9.4039          67           0.13043
192
193
194  Data Role=VALIDATE Target Variable=Churn Target Label=' '
195
196
                                      Mean
197                                   Cumulative        %       Cum
     ulative      Number of      Posterior
198  Depth      Gain       Lift        Lift       Response    % R
     esponse    Observations    Probability
199
200     5     71.2242    1.71224      1.71224      84.5735      8
     4.5735          29           0.93621
201    10     68.2224    1.65221      1.68222      81.6081      8
     3.0908          29           0.86340
202    15     68.4893    1.69023      1.68489      83.4862      8
     3.2226          29           0.84261
203    20     68.6227    1.69023      1.68623      83.4862      8
     3.2885          29           0.84261
204    25     68.7028    1.69023      1.68703      83.4862      8
     3.3281          29           0.84261
205    30     68.7561    1.69023      1.68756      83.4862      8
     3.3544          29           0.84261
```

```
206    35     68.7931    1.69023      1.68793      83.4862      8
     3.3727          28           0.84261
207    40     68.8220    1.69023      1.68822      83.4862      8
     3.3869          29           0.84261
208    45     68.6191    1.67003      1.68619      82.4883      8
     3.2867          29           0.83884
209    50     63.0624    1.13244      1.63062      55.9352      8
     0.5421          29           0.61117
210    55     55.1315    0.76096      1.55131      37.5862      7
     6.6247          29           0.36319
211    60     47.3843    0.62432      1.47384      30.8374      7
     2.7981          29           0.19007
212    65     38.3963    0.30850      1.38396      15.2381      6
     8.3587          29           0.14694
213    70     30.9426    0.30850      1.30943      15.2381      6
     4.6770          28           0.14694
214    75     24.2390    0.30850      1.24239      15.2381      6
     1.3659          29           0.14694
215    80     18.3770    0.30850      1.18377      15.2381      5
     8.4704          29           0.14694
216    85     13.2074    0.30850      1.13207      15.2381      5
     5.9170          29           0.14694
217    90      8.6144    0.30850      1.08614      15.2381      5
     3.6484          29           0.14694
218    95      4.5066    0.30850      1.04507      15.2381      5
     1.6194          29           0.14694
219   100      0.0000    0.11638      1.00000       5.7483      4
     9.3934          28           0.13279
220
221
222
223
224  Assessment Score Distribution
225
226  Data Role=TRAIN Target Variable=Churn Target Label=' '
227
```

Posterior Probability Range	Number of Events	Number of Nonevents	Mean Posterior Probability	Percentage
0.90-0.95	38	2	0.95000	2.9806
0.85-0.90	25	3	0.89286	2.0864
0.80-0.85	439	82	0.84261	38.8227
0.70-0.75	22	8	0.73333	2.2355
0.50-0.55	35	29	0.54688	4.7690
0.25-0.30	10	24	0.29412	2.5335
0.15-0.20	13	53	0.19697	4.9180
0.10-0.15	81	478	0.14490	41.6542

Data Role=VALIDATE Target Variable=Churn Target Label=' '

Posterior Probability Range	Number of Events	Number of Nonevents	Mean Posterior Probability	Percentage
0.90-0.95	19	3	0.95000	3.8128
0.85-0.90	15	4	0.89286	3.2929
0.80-0.85	182	36	0.84261	37.7816

251	0.70-0.75	6	5	0.73333	1.9064
252	0.50-0.55	17	13	0.54688	5.1993
253	0.25-0.30	2	8	0.29412	1.7331
254	0.15-0.20	11	22	0.19697	5.7192
255	0.10-0.15	33	201	0.14525	40.5546