Practice: Using Tasks to Generate a Neural Network in SAS Studio from a Promoted Table

The following Tasks and Utilities generated code is saved on the server. To open the code, navigate to **Files (Home)** > **Courses** > **EVMLOPRC** > **SAS_Studio** > **Machine_Learning_Practice_SAS_Studio.sas**.

1. Navigate to SAS Studio by using the orange tool bar at the bottom of the Viya for Learners web page.
2. Define a home directory path macro variable.

```
%let homedir=%sysget(HOME);
```

3. In the code editor, create a caslib named **mycaslib** and use the LIBNAME statement below. Then click the **Libraries** tab and open **mycaslib**. Notice that the promoted table **BANK** is present.

```
libname mycaslib cas;
```

4. Use the following DATA step to separate the training and validation cases based on the **_PartInd_** variable, where a value of 1 indicates training and a value of 0 indicates validation:

```
data mycaslib.train mycaslib.validate;
        set mycaslib.bank;
        if _PartInd_ = 1 then output mycaslib.train;
        else output mycaslib.validate;
run;
```

5. On the Tasks and Utilities tab, select **SAS Viya Supervises Learning** and open **Neural Network**.

6. On the Data tab, enter **mycaslib.train** in the data field. Under the **Roles** field, select **Use a nominal target**. Add the nominal target **B_TGT** to the **target** field.
   Then add the appropriate imputed variables to the **interval** field:
   - **IMP_demog_age**
   - **IMP_demog_homeval**
   - **IMP_demog_inc**
   - **IMP_rfm5**
   - **IMP_rfm6**
   - **IMP_rfm7**
   - **IMP_rfm8**
   - **IMP_rfm9**
   - **IMP_rfm10**
   - **IMP_rfm11**
   - **IMP_rfm12**

   and to the **nominal** field:
   - **IMP_cat_input1**
   - **IMP_cat_input2**
   - **IMP_demog_gen**
   - **IMP_demog_hos**

   Notice that the NNET procedure syntax is populated in the code window.

7. On the Options tab, for **Hidden Layer**s, change the number of hidden units to **100**.

8. On the Output tab, select **Save scoring code** and change the file to **nn_model.sas**. Run the generated code.

9. On the Tasks and Utilities tab, select **SAS Viya Evaluate and Implement** and open **Scoring**.

10. On the Data tab, specify **mycaslib.validate** as the data table. Then select **Use scoring code** in the **Scoring Type** field. Change the file to **nn_model.sas**. Finally, in the **Output Data** field, specify a new CAS table, **mycaslib.nn_scored**, to save the scoring information. Run the generated code.

11. On the Tasks and Utilities tab, select **SAS Viya Evaluate and Implement** and click **Assess** to open it.

12. On the DATA tab, specify the CAS table as **mycaslib.nn_scored**. Select **Use a nominal target** under **Roles** and add the target **b_tgt** to the **target** field. Change the **event level of target value** to **1** and the **Posterior probability of target event** value to **P_b_tgt1**.

13. On the OPTIONS tab, clear the **Produce fit statistics** and **Lift chart** check boxes. Run the generated code.

14. To drop a global table from the server in SAS Studio, use the following CASUTIL procedure:

```
proc casutil;
   droptable casdata="bank";
run;
```