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Performing Stepwise Regression Using the Linear Regression Task

Use the Linear Regression task to select a model for predicting **SalePrice** in the **ameshousing3** data set by using the STEPWISE selection method. Use 0.05 as the significance level for entry into and staying in the model.

1. In the Navigation pane, select **Tasks and Utilities**.
2. Expand **Tasks**.
3. Expand **Statistics** and open the **Linear Regression** task.
4. Select the **stat1.ameshousing3** table.
5. Assign **SalePrice** to the Dependent variable role.
6. Assign the interval variables (**Lot_Area**, **Gr_Liv_Area**, **Bedroom_AbvGr**, **Garage_Area**, **Basement_Area**, **Total_Bathroom**, **Deck_Porch_Area**, and **Age_Sold**) to the Continuous variables role.
7. On the MODEL tab, use the Model Effect Builder to specify the appropriate model. Click the **Edit this model** icon, select all variables, and click **Add** under Single Effects. Then click **OK**.
8. On the OPTIONS tab, clear the check boxes for all diagnostic plots, residual plots, and scatter plots.
9. On the SELECTION tab, use the Selection method drop-down list to choose **Stepwise selection**.
10. For the Add/remove effects with value, choose **Significance level**.
11. Expand the **DETAILS** property and select **Details for each step** from the drop-down menu**.**
12. To obtain detailed graphical output, modify the generated code. Click the **Edit SAS code** icon on the CODE tab and change **plots=(criterionpanel)** to **plots=all**.
13. Click **Run**.

Generated Code

```
ods noproctitle;
ods graphics / imagemap=on;

proc glmselect data=STAT1.AMESHOUSING3 outdesign(addinputvars)=Work.reg_design plots=(all);
   model SalePrice=Lot_Area Gr_Liv_Area Bedroom_AbvGr Garage_Area Basement_Area
         Total_Bathroom Deck_Porch_Area Age_Sold / showpvalues selection=stepwise
        (slentry=0.05 slstay=0.05 select=sl) details=steps;
run;

proc delete data=Work.reg_design;
run;
```