Submit the following code to perform both the forward selection and backward elimination processes.

```
%let interval=Gr_Liv_Area Basement_Area Garage_Area Deck_Porch_Area
         Lot_Area Age_Sold Bedroom_AbvGr Total_Bathroom ;

proc glmselect data=stat1.ameshousing3 plots=all;
   FORWARD: model SalePrice=&interval / selection=forward details=steps
select=SL slentry=0.05;
   title "Forward Model Selection for SalePrice - SL 0.05";
run;

proc glmselect data=stat1.ameshousing3 plots=all;
   BACKWARD: model SalePrice=&interval / selection=backward details=steps
select=SL slstay=0.05;
   title "Backward Model Selection for SalePrice - SL 0.05";
run;
title;
```

Examine the results.

The final models that are obtained using the SLENTRY=0.05 and SLSTAY=0.05 criteria are displayed for FORWARD, BACKWARD, and STEPWISE. In this instance, all the selected models matched. However, this won't always be the case. When you run stepwise methods on your own data, the methods might select different models. .

Also, recall the significance levels that the previous program used for entering the model and staying in the model. If you were to use different significance levels for entering the model and staying in the model, PROC GLMSELECT could produce very different models. The choice of SLENTRY and SLSTAY levels can greatly affect the final models that are selected using stepwise methods.

One last thing to remember is that the stepwise techniques don't take any collinearity in your model into account. Collinearity means that predictor variables in the same model are highly correlated. If collinearity is present in your model, you might want to consider first reducing the collinearity as much as possible and then running stepwise methods on the remaining variables.