Building a Model

All-in – cases:

* Prior Knowledge: OR
* You have to; Or
* Preparing for Backward Elimination

Backward Elimination Steps: (FASTEST ONE. Do This Method. )

1. Select a significance level to stay in the model (e.g. SL = 0.05)
2. Fit the full model with all possible predictors
3. Consider the predictor with the highest P-value. If P>SL, go to STEP 4, otherwise go to FN
4. Remove the predictor
5. Fit the model without this variable\* then go to Step 3

https://www.dropbox.com/sh/pknk0g9yu4z06u7/AADSTzieYEMfs1HHxKHt9j1ba?dl=0

Forward Selection Steps:

1. Select a significance level to ENTER the model (e.g. SL = 0.05)
2. Fit all simple regression models y ~ X. Select the one with the lowest P-Value
3. Keep this variable and fit all possible models with one extra predictor added to the one(s) you already have
4. Consider the predictor with the lowest P-value. If P < SL, go to Step 3, otherwise go to FIN.

Bidirectional Elemination

1. Select a significance Level to enter and to stay in the model
2. Perform the next step of Forward Selection (new variable must have P < SLENTER to enter)
3. Perform all steps of Backward Elimination (old variable must have P < SLSTAY to stay)
4. No new variable can enter and no old variable can exit.

All Possible Model

1. Select a criterion of goodness of fit (e.g. Akaike Criterion)
2. Construct all possible Regression Models: 2N-1 total combinations
3. Select the one with the best criterion