Exploration 10A: Building a Trustworthy Model at EnPact

1. Construct a full regression model with all the explanatory variables, both numerical and categorical, of the EnPact data found in C11 EnPact Data.xls [.rda]. Be sure to create dummy variables of the categorical data first, if your software package requires it. And while the Job Grade and Education Level variables are ordinal, they are categorical and should be treated as such. Enter your results in the chart below.
2. Select the significant variables from the output of the full model regression in Part 1 and run the reduced model. Record your results in the chart below.
3. Use your software's stepwise regression procedure with the complete set of numerical and categorical explanatory variables. Enter your results in the chart below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Model | R2 | Adj R2 | Se | List of Significant Variables |
| Part 1 | Full Model |  |  |  |  |
| Part 2 | Reduced Model |  |  |  |  |
| Part 3 | Stepwise Regression |  |  |  |  |

1. What do you observe about your results from Parts 2 and 3? How do you account for this?
2. Write down what you think is the most suitable model and defend your choice.
3. Interpret your model.