

Assignment: Inferential II

EDH7916

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Using `els_plans.dta`, please answer the following questions. Use comments to respond as necessary.

Questions

1. Using this multiple regression model from the lesson,

```
lm(bynels2m ~ byses1 + female + moth_ba + fath_ba + lowinc, data = df)
```

add the fitted values to the residuals and store in an object, `x`. Compare these values to the math scores in the data frame.

2. Using this multiple regression model from the lesson,

```
lm(bynels2m ~ byses1 + female + moth_ba + fath_ba + lowinc + factor(bystexp),  
  data = df)
```

Add the categorical variable `byincome` to the model above. Next use `model.matrix()` to check the RHS matrix.

3. Fit a linear model with both interactions and a polynomial term. Then look at the model matrix to see what R did under the hood.
4. Fit a logit or probit model to another binary outcome than what was selected in the lesson (other than `plan_col_grad`: you can make a new one if you want).

Submission details

- Save your script (`<lastname>_assignment_regression.R`) in your `scripts` directory.
- Push changes to your repo (the new script and new folder) to GitHub prior to the next class session.