Course Work Demonstration

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| **Working with Data**  * **WD-1:** I can import data from a variety of formats (e.g., csv, xlsx, txt, etc.). * **WD-2:** I can select necessary columns from a dataset. * **WD-3:** I can filter rows from a dataframe for a variety of data types (e.g., numeric, integer, character, factor, date). * **WD-4:** I can modify existing variables and create new variables in a dataframe for a variety of data types (e.g., numeric, integer, character, factor, date). * **WD-5:** I can use mutating joins to combine multiple dataframes. * **WD-6:** I can use filtering joins to filter rows from a dataframe. * **WD-7:** I can pivot dataframes from long to wide and visa versa.  **Reproducibility**  * **R-1:** I can create professional looking, reproducible analyses using RStudio projects, Quarto documents, and the here package. * **R-2:** I can write well documented and tidy code * **R-3:** I can write robust programs that are resistant to changes in inputs. | **Data Visualization & Summarization**  * **DVS-1:** I can create visualizations for a variety of variable types(e.g., numeric, character, factor, date) * **DVS-2:** I use plot modifications to make my visualization clear to the reader. * **DVS-3:** I show creativity in my visualizations * **DVS-4:** I can calculate numerical summaries of variables. * **DVS-5:** I can find summaries of variables across multiple groups. * **DVS-6:** I can create tables which make my summaries clear to the reader. * **DVS-7:** I show creativity in my tables.  **Program Efficiency**  * **PE-1:** I can write concise code which does not repeat itself. * **PE-2:** I can write functions to reduce repetition in my code. * **PE-3:**I can use iteration to reduce repetition in my code. * **PE-4:** I can use modern tools when carrying out my analysis.  **Data Simulation & Modeling**  * **DSM-1:** I can simulate data from a variety of probability models. * **DSM-2:** I can fit a linear regression and extract necessary summary measures. |

## Meeting Learning Targets

WD-1 is demonstrated by data\_import\_practice.qmd; WD-2 was met by lab4 problem 3.2 and 4.2; WD-3 was met by problem 2.A of PA3; WD-4 is met by step 4 of PA3, problem 4 of lab 3, and problem 3 of lab5; WD-6 was met by problem 3.3 of lab4; WD-7 is met by problems 4 and 4.2 in lab4; R-1 was demonstrated by the htm out put of lab4; R-2 was met by lab7 part; R-3 was demonstrated by lab 7 part 2 c; DVS-1 was met by problems 1, 2, and 3 of lab5; DVS-2 was met problem 1 of lab 5, and problem 4.2 of lab 4; DVS-3 was me by both problem 2 of lab4\_challenge #2, and lab5 #1; DVS-4 was demonstrated in lab4\_challenge #1, and by part 7 of lab3; DVS-5 was met by the datatable in lab 9 and lab 3 number 7; PE-1, PE-2, and PE-2 were met by lab8’s large test problem, and lab4’s problems 3.1 and 3.2; PE-3 and PE-4 were met by lab4\_challenge problem 1, and lab 8 Use You Function; DSM-1 was met by PA9 problem 3; DSM-2 is met by lab 9 problems 3.2 and 4, as well as, PA9 problem 1.