

Assignment 9

EDH7916

Benjamin Skinner

For this assignment, you will use a combination of the files we've used so far in class. Be sure to set your data directories at the top of the file (assuming that we're working in the `scripts` subdirectory). Because some of the questions involve reading in the data, you can break our one organizing rule that says to read in data at the top — instead just read in the data as needed for each question

You **do not** need to save the final output as a data file: just having the final result print to the console is fine. For each question, I would like you to try to pipe all the commands together. Throughout, you **should** account for missing values to the best of your ability by dropping them.

Questions

- Using a loop, do the following:
 - Read in each of the individual school test files for Bend Gate and Niagara only. (**HINT** The vertical pipe operator, `|`, means **OR** in regular expression patterns.)
 - Within each iteration of the loop, add a column to the data frame that is called `relative_path` and contains the string relative path to the data file you just read in (*e.g.*, if the file is located at `../data/sch_test/by_school/bend_gate_1980.csv`, then `relative_path == "../data/schools/by_test/bend_gate_1980.csv"` in that row).
 - Bind all the data sets together.
- BONUS:** do the same as before, but use `purrr::map()` function.
- Read in `hsls_small.csv` and do the following:
 - Using the user-written function `fix_missing()`, convert missing values in `x1ses` to `NA`.
 - Do the following steps:
 - Subset the full data frame to the first 50 rows and pull out the test scores into a vector using the following code:

```
test_scr <- df %>%
  filter(row_number() <= 50) %>%
  pull(x1txmtscor)
```
 - Using a `for()` loop, print out the index of the missing values (when `test_scr` equals `-8`).
 - Repeat the same code, but add an `else()` companion to the initial `if()` statement that prints the value if non-missing.
 - Add an `else if()` between the initial `if()` and final `else()` in your loop that prints "Flag: low score" if the score is less than 40. Also, change your first `if()` statement to print "Flag: missing value" instead of the index if the value is missing.
- Write your own function to compare two values and return the higher of the two. It should be called `return_higher()`, take two arguments, and return the higher of two values. Once you've created it, use it in a `dplyr` chain to create a new column in the data frame called `high_expt` that is the represents the higher of `x1stuedexpt` and `x1paredexpt`. Don't forget to account for missing values!

HINT If stuck on what the inside of your function should look like, go back to the lesson in which we did this already — can you repurpose that code in some way?

Submission details

- Save your script (`<lastname>_assignment_9.R`) in your `scripts` directory.
- Push changes to your repo (the new script and new folder) to GitHub prior to the next class session.