

# PSYCH 10 Final Project · Fall 2026

## Week 3 · M2 · Looking for patterns

Full name \_\_\_\_\_

SUNet ID (the part before @stanford.edu) \_\_\_\_\_

Section (e.g., TUES 9:30) \_\_\_\_\_

*Please write legibly so the teaching team can log your attendance: if we can't read your name, we can't give you credit.*

*Please hand this sheet in to your TA at the end of section. A copy is on the course website ([psych10.github.io](https://psych10.github.io)) for you to work from at home.*

### What you'll turn in

milestones/M2-looking-for-patterns.Rmd and the PDF it knits to, from the same project folder as M1. Submit both files on Gradescope (the link is on Canvas).

### Steps

1. **Start with your claim from M1.** Download M2-looking-for-patterns.Rmd from the course website into your project's milestones/ folder, next to your M1 file. Write your claim in one sentence and name the dataset you're using. It should be the one from M1. Copy the data-loading code from your M1 file into the first chunk. (If your M1 dataset didn't load, or turned out not to have what you needed, you can switch.)
2. **Make a histogram from your dataset.** Pick one *quantitative* column you're interested in and make a histogram of it with `gf_histogram()`, the way you did in CourseKata Chapter 3. Write the code yourself: don't use AI for this! (You'll use AI to check your work in the next step.) If you're stuck, CourseKata and the example below are the places to look. Then answer two questions, in a sentence each. What is the shape of the distribution (where are most of the values, is it symmetric or skewed, and are there any unusual values)? Is it what you expected?
3. **Ask the AI for the same histogram, in plain words.** Don't give it any code: describe what you want, the way you'd ask a person (for example, "Make a histogram of life expectancy in 2007 from the gapminder data"). Put the code it gives you in the next chunk and run it. Then write a few sentences: is its histogram the same as yours? If not, what is different, and does the difference change what you said about the shape in step 2?
4. **Decide which columns could test your claim.** Look at the columns in your data (`str()` lists them, as in M1) and decide which ones you could use to test your claim. Write down the columns you think would be most useful, and what each one would tell you about the claim.
5. **Ask the AI for code for a plot of those columns.** Ask in plain words, as in step 3: say what your data looks like (paste the `str()` output), name the columns from step 4, and state the claim you want the plot to check. Write down what you asked.
6. **Paste the code and say what you see.** Put the code for the plot in its own chunk. Under the plot, write a sentence or two on each of these, in your own words:
  - What pattern do you see? (Or do you see none?)
  - Is it what you expected?
  - Does this plot help you answer your claim? Why or why not?
  - What is one thing you learned about the data from looking at this plot?
7. **What would you want to find out next?** In one or two sentences, say what about your claim or your data you'd most like to look into for the project, and why.
8. **Knit to PDF in a fresh session** (Session → Restart R, then Knit → Knit to PDF) and submit the .Rmd and the PDF.

### An example: the histogram

Suppose your claim is the one from the M1 example: "Life expectancy around the world has gone up by about 20 years since the 1950s." With the gapminder data, a histogram of life expectancy in 2007 (one row per country) takes two lines:

```
gapminder_2007 <- filter(gapminder, year == 2007)
gf_histogram(~ lifeExp, data = gapminder_2007)
```

### Using AI on this milestone

Make the histogram in step 2 without AI. From step 3 on, ask the AI for plot code in plain words, and use it to fix code and to explain any code you don't understand. Choose the columns yourself (step 4), and write what you see in each plot yourself. The

purpose of this milestone is for you to look at your own data and say what you see. If the AI's plot doesn't show what you asked for (the wrong column, or a different kind of plot from the one you wanted), fix it or ask again.

### How it's graded (1 point)

|                                                                                                                                                             | Points |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| The claim and the dataset from M1 (or another one); the data loads and the file knits                                                                       | 0.2    |
| Your own histogram of one quantitative column, and what you wrote about its shape                                                                           | 0.2    |
| The AI's histogram from a plain-language request, and how it compares with yours                                                                            | 0.2    |
| The columns you'd use to test the claim, what you asked the AI, and a plot that shows those columns                                                         | 0.2    |
| Your reading of the plot (the pattern, whether you expected it, whether it helps answer the claim, one thing you learned); what you'd want to find out next | 0.2    |

### In section this week

Bring your laptop! Near the end, we'll go around the room and everyone will share the claim or topic they're interested in. Listen for people whose topics are close to yours: next week you'll form groups of three within this section, so start thinking about who you'd like to work with.