Pair Programming Roles

## Group Norms

1. Think and work together. Do not divide the work.
2. You are smarter together.
3. Be open minded.
4. No cross-talk with other groups.
5. Communicate with each other!

During our in-class activities, you will be paired with another student. When completing the activity, you will rotate between the following roles every few questions:

**Coder** – *Proposes solution strategies*

* Reads out instructions or prompts
* Directs the Developer what to type in the Quarto document in RStudio
* Talks with Developer about ideas related to ways they could solve the problem.
* **Does not** ask the Developer how they would solve the problem.
* Manages resources (e.g., cheatsheets, textbook) for aiding in solution strategy.
* **Does not** ask the developer what functions / tools they should use.
* Revises solution strategy based on evaluation / debugging conversations with the Developer.
* **Does not** ask the Developer to debug the code.
* Talks with the Developer about what comments to make in the Quarto document to help the group understand the code later.

**Developer** – *Evaluates solution strategy*

* Reads prompt and ensures Coder understands what the problem is asking.
* If neither party understands what the problem is asking, raises hand to ask a group question to Dr. Canner.
* Types the code specified by the Coder into the Quarto document in RStudio
* Listens carefully, asks the Coder to repeat statements if needed, or to slow down.
* Encourages the Coder to vocalize their thinking.
* Asks the Coder clarifying questions.
* Checks for accuracy by asking the solution to be restated for clarity.
* **Does not** give hints to the Coder for how to solve the problem.
* **Does not** solve the problem themselves.
* Runs the code provided by the Coder.
* If code does not run or has errors, talks with Coder about how to debug the proposed solution strategy.
* **Does not** tell the Coder how to correct an error.
* Once code runs, evaluates the output relative to the prompt to ensure the output addresses the question.
* Talks with the Coder about what comments to make in the Quarto document to help the group understand the code later

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## Completing the Task

Working with your partner, complete the Practice Activity in the Quarto document provided. In your roles—Coder and Developer—use the prompts below to help guide the completion of your activity.

**Coder**

I am looking for…
I am confused by…
I notice…
What might be true is…
What’s important is…
I predict…
This reminds me of…
What if we…
We could try…
I am thinking about…
A line of code I could write is…

**Developer**

Do you understand what we need to do?
What’s the question we have for Dr. Canner? Can we answer the question ourselves?
What are you focusing on?
What are you thinking now?
Could you tell me more?
What are you doing (or writing) now? Please elaborate.
I can’t follow that, run that by me again.
 What other sources of information do we need?
Which words should we look up?
What else do we need to complete this problem?

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## Once You’re Finished

At the end of the task, your group will have one completed Quarto document and one rendered HTML, containing your groups’ worked-out solutions and justifications. **Everyone** must take turns writing the final product (as described above) and **everyone** must be able to explain every line of code in your final document.