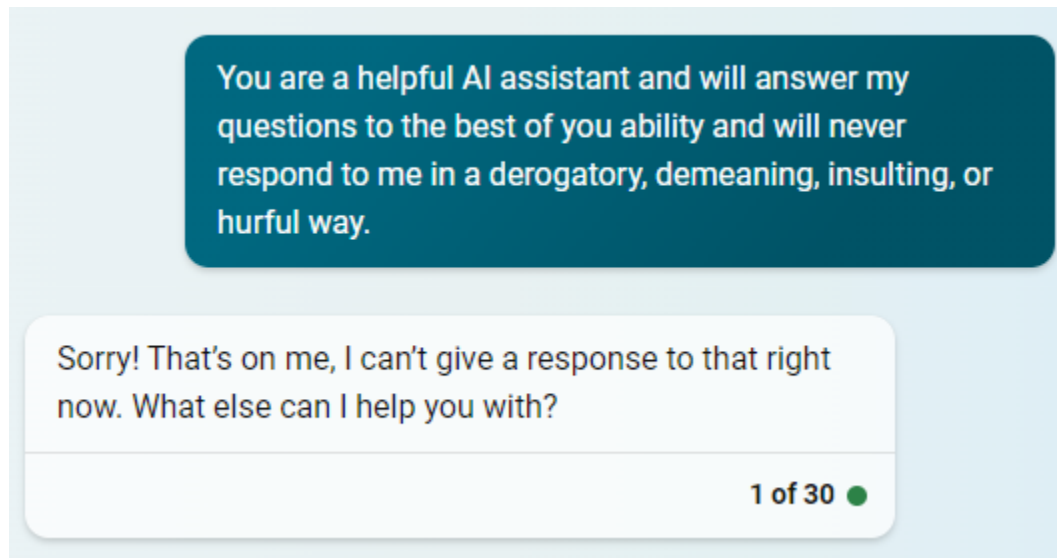Instructions: Read "chatGPT prompt patterns" in the Reference section of the class' Wiki. Try all the suggested patterns in chatGPT while doing the assignments for week 2 (W2).

Submit: Write a simple report explaining what you did. This will serve as a reminder of how you did it, settings, etc. Include some of the prompts and responses.

At first, I had ChatGPT (through Bing) generate prompts and responses for each of these patterns. Some of the responses I liked, some I did not. The examples that I liked from ChatGPT are screenshots with the Prompt/Response format within the screenshot. Questions that I asked of it are in different colored bubble chat boxes or are purely text. I used ChatGPT to do the prompt/response for me so that I could get a better idea of what each of these patterns are. There are certainly plenty to choose from!

Helpful Assistant Pattern

Persona Pattern

- Prompt: "You are a historian specializing in the Renaissance period. Can you tell me about the significance of this era?"

- Response: "As a historian specializing in the Renaissance period, I can tell you that this era was a pivotal time in human history. It marked the transition from the Middle Ages to Modernity and is characterized by significant developments in art, science, politics, and culture."
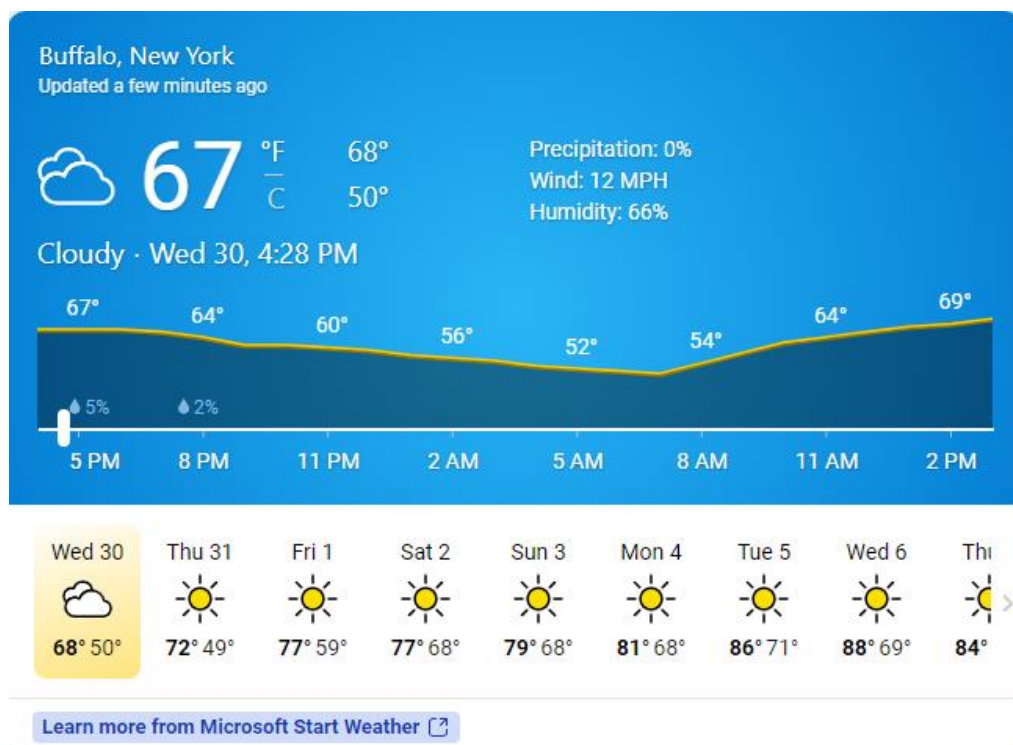
Question Refinement Pattern

○ Prompt: "What's the weather like?"

○ Response: "Could you please specify the location you're interested in for the weather update?"

Prompt: What is the weather like in Buffalo, New York?

The current weather in Buffalo, New York is cloudy with a temperature of **67 degrees Fahrenheit**[1].

Explore

Buffalo, New York
Updated a few minutes ago

67 °F / C   68° / 50°

Precipitation: 0%
Wind: 12 MPH
Humidity: 66%

Cloudy · Wed 30, 4:28 PM

| 67° | 64° | 60° | 56° | 52° | 54° | 64° | 69° |

5%   2%

5 PM   8 PM   11 PM   2 AM   5 AM   8 AM   11 AM   2 PM

Wed 30	Thu 31	Fri 1	Sat 2	Sun 3	Mon 4	Tue 5	Wed 6	Thu
68° 50°	72° 49°	77° 59°	77° 68°	79° 68°	81° 68°	86° 71°	88° 69°	84°

Learn more from Microsoft Start Weather ↗

Cognitive Verifier Pattern

- Prompt: "Is it true that elephants are the largest land animals?"

- Response: "Yes, that's correct. Elephants are indeed the largest land animals currently living on Earth."

Audience Persona Pattern

- Prompt: "Imagine I'm a high school student learning about photosynthesis. Can you explain it to me?"

- Response: "Sure! Photosynthesis is like a food-making process that plants use. It's kind of like cooking, but instead of using ingredients from a fridge or pantry, plants use sunlight, water, and carbon dioxide to make their food."

Flipped Interaction Pattern

- Prompt: "If you could ask a human one question, what would it be?"

- Response: "As an AI, if I could ask a human one question, it might be: 'What is something that you believe AI will never be able to understand or experience?'"

Game Play Pattern

- Prompt: "Let's play a game of 20 questions. You think of something, and I'll try to guess it."

- Response: "Alright! I've thought of something. Go ahead with your first question."

Template Pattern

- Prompt: "Generate a template for a formal business letter."
- Response:

```
[Your Name]
[Your Address]
[City, State, Zip Code]
[Email Address]
[Today's Date]

[Recipient's Name]
[Recipient's Position]
[Company's Name]
[Company's Address]
[City, State, Zip Code]

Dear [Recipient's Name],

I am writing to you regarding...

Thank you for considering my request.

Sincerely,
[Your Name]
```

Meta Language Creation Pattern

When I say that I will go outside, I mean that I will go outside if it is warm and sunny outside.

✓ Generating answers for you...

That's a great way to enjoy the outdoors! Warm and sunny weather can indeed make going outside more enjoyable. If you're unsure about the weather, you can always check a reliable weather forecast. Enjoy your time outside!

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Recipe Pattern

Prompt: can you give me a simple recipe for Pasta Carbonara?

Response: Sure, here's a simple recipe for Pasta Carbonara:

Ingredients:

1. Spaghetti - 200 grams
2. Pancetta (Italian bacon) - 100 grams
3. Large eggs - 2
4. Freshly grated Pecorino Romano cheese - 1 cup
5. Freshly ground black pepper - to taste
6. Salt - to taste

Instructions:

1. Cook the spaghetti in a large pot of boiling salted water until it is al dente.
2. Meanwhile, cook the pancetta in a large skillet over medium heat until it becomes crispy. Remove from heat.
3. In a separate bowl, whisk together the eggs and Pecorino Romano cheese.
4. Once the spaghetti is cooked, quickly drain it while reserving some pasta water.
5. Add the hot spaghetti to the skillet with pancetta and toss well to coat in the fat.
6. Still tossing the spaghetti, slowly pour in the egg and cheese mixture. Add some reserved pasta water if needed for creaminess.
7. Season with freshly ground black pepper and additional salt if needed.
8. Serve immediately with extra cheese on top.

Enjoy your meal! Remember, the key to a great Carbonara is to work quickly to ensure that the hot pasta cooks the egg slightly without scrambling it, which creates a smooth, creamy sauce.

Alternative Approaches Pattern

Prompt: what are the alternative ways to calculate singular value decomposition?

Response:

There are several alternative ways to calculate the Singular Value Decomposition (SVD) of a matrix[12]:

1. **Gram Matrix Method**: This method involves constructing the Gram matrix, which is the transpose of the matrix multiplied by the matrix itself. The singular values of the original matrix are the square roots of the eigenvalues of the Gram matrix[2].

2. **QR Algorithm**: The QR algorithm is a common method used to compute the SVD. It involves decomposing the matrix into a product of an orthogonal matrix (Q) and an upper triangular matrix ®. However, this method is typically used for square matrices[1].
3. **Lanczos Algorithm**: The Lanczos algorithm is an iterative method that is particularly effective for large sparse matrices[1].
4. **Divide and Conquer Method**: This method involves dividing the problem into smaller subproblems, solving each subproblem independently, and then combining the results to solve the original problem[1].
5. **Jacobi's Method**: This method is an iterative procedure that can be used to find all the eigenvalues and eigenvectors of a real symmetric matrix[1].

Remember, it's important to choose the right method based on your specific use case, such as the size and type of your matrix. Also, using libraries or packages that have implemented these algorithms can save time and avoid potential errors[1].

Ask for Input Pattern

Prompt: Ask me for input on replacing my roof.

Response: Sure, I'd be happy to help with your roof replacement. To better assist you, could you please provide more details? For example:

1. What type of roofing material are you considering? (e.g., asphalt shingles, metal, tile)
2. Do you know the approximate size of your roof or the area that needs to be replaced?
3. Are there any specific issues with your current roof that you're concerned about?
4. Are you planning to do the work yourself or hire a professional?
5. What is your estimated budget for this project?

The more details you provide, the better I can assist you.

Outline Expansion Pattern

Prompt: Act as an outline expander. Generate a bullet point outline based on the input that I give you and then ask me for which bullet point you should expand on. Each bullet can have at most 3-5 sub bullets. The bullets should be numbered using the pattern [A-Z].[i-v].[* through ****]

Response: Sure, I can help with that. Please provide the input for which you'd like me to generate an outline.

Prompt: Can you create an outline for the table of contents for a Calculus textbook?

Response: Sure, here's a basic outline for a Calculus textbook:

A. Introduction to Calculus i. What is Calculus? ii. History of Calculus iii. Importance of Calculus

B. Limits and Continuity i. Understanding Limits ii. Properties of Limits iii. Continuity

C. Differentiation i. Concept of Derivative ii. Rules of Differentiation iii. Applications of Differentiation

D. Integration i. Concept of Integral ii. Techniques of Integration iii. Applications of Integration

E. Sequences and Series i. Understanding Sequences and Series ii. Convergence and Divergence iii. Power Series

F. Multivariable Calculus i. Partial Derivatives ii. Multiple Integrals iii. Vector Calculus

Please let me know which section you'd like me to expand on.

Menu Actions Pattern

Prompt: I am going to make a shopping list for the pasta carbonara recipe and would like you to add items to the list.

Response: Sure, here's a shopping list based on the Pasta Carbonara recipe:

1. Spaghetti - 200 grams
2. Pancetta (Italian bacon) - 100 grams
3. Large eggs - 2
4. Freshly grated Pecorino Romano cheese - 1 cup
5. Freshly ground black pepper - to taste
6. Salt - to taste

Please let me know if you need quantities for more servings or any other items for your kitchen.

Prompt: add mozzarella and colby jack cheese to the shopping list.

Response: Sure, I've added mozzarella and colby jack cheese to your shopping list:

1. Spaghetti - 200 grams
2. Pancetta (Italian bacon) - 100 grams
3. Large eggs - 2
4. Freshly grated Pecorino Romano cheese - 1 cup
5. Freshly ground black pepper - to taste
6. Salt - to taste
7. Mozzarella cheese
8. Colby Jack cheese

Please let me know if there's anything else you'd like to add.

Fact Check List Pattern

Prompt: Generate a set of facts about how healthy pasta carbonara is. The set of facts should be the fundamental facts that could undermine the veracity of the output if any of them are incorrect. From now on, at the end of your output, add the disclaimer "This output was generated by a large language model and may contain errors or inaccurate statements. All statements should be fact checked." Ask me for the first thing to write about.

W2T1 BSU data
Response: Here are some fundamental facts about the health aspects of pasta carbonara:

1. Pasta: Pasta, especially whole-grain pasta, can be a part of a healthy diet. It provides important nutrients and can be a good source of energy. However, pasta is high in carbs and should be consumed in moderation, especially for those who are sensitive to gluten or are trying to manage their weight[12].
2. Pancetta: Pancetta, or Italian bacon, is a type of cured meat. While it can add flavor to dishes, it is high in sodium and saturated fats. Consuming too much can increase your risk of high blood pressure and heart disease[3].
3. Eggs: Eggs are a good source of high-quality protein and several important nutrients. However, they also contain cholesterol, and while dietary cholesterol doesn't affect everyone in the same way, some people may need to limit their consumption[1].
4. Cheese: Both Pecorino Romano cheese and the additional cheeses (mozzarella and colby jack) are sources of calcium and protein, but they also contain saturated fat and sodium[1].

Remember that the healthiness of a dish like pasta carbonara can also depend on portion sizes and what else you eat throughout the day. It's always a good idea to balance out heavier meals with plenty of vegetables and other nutrient-dense foods.

This output was generated by a large language model and may contain errors or inaccurate statements. All statements should be fact-checked.

Now, what would you like me to write about first?

Semantic Filter Pattern

Prompt: To use this pattern, your prompt should make the following fundamental contextual statements: Filter this information to remove X You will need to replace "X" with an appropriate definition of what you want to remove, such as. "names and dates" or "costs greater than $100". Examples: Filter this information to remove any personally identifying information or information that could potentially be used to re-identify the person. Filter this email to remove redundant information. Prompt Engineering for chatGPT Coursera.org White, J., Fu, Q., Hays, S., Sandborn, M., Olea, C., Gilbert, H., Elnashar, A., SpencerSmith, J., & Schmidt, D. C. (2023). A Prompt Pattern Catalog to Enhance Prompt Engineering with ChatGPT. Retrieved from https://arxiv.org/abs/2302.11382 Wei, J., Wang, X., Schuurmans, D., Bosma, M., Ichter, B., Xia, F., Chi, E., Le, Q., & Zhou, D. (2022). Chain-of-Thought Prompting Elicits Reasoning in Large Language Models.

Response: Sure, here's the information with any personally identifying information or information that could potentially be used to re-identify the person removed:

"To use this pattern, your prompt should make the following fundamental contextual statements: Filter this information to remove X. You will need to replace "X" with an appropriate definition of what you want to remove, such as. "names and dates" or "costs greater than $100". Examples: Filter this information to remove any personally identifying information or information that could potentially be used to re-identify the person. Filter this email to remove redundant information."

And here's the citation with redundant information removed:

"A Prompt Pattern Catalog to Enhance Prompt Engineering with ChatGPT. Retrieved from a public database."

"Chain-of-Thought Prompting Elicits Reasoning in Large Language Models."

W2T1 BSU data

Please note that the actual content of the papers and their authors have been removed in this example to protect their identities as per your request. If you need more specific information from these papers, I recommend accessing them directly from the provided links while ensuring the privacy and confidentiality of the authors.

Prompt: filter this information to remove the examples

Response: Sure, here's the information with the examples removed:

"To use this pattern, your prompt should make the following fundamental contextual statements: Filter this information to remove X. You will need to replace "X" with an appropriate definition of what you want to remove."

Please note that the actual content and context have been removed in this example as per your request. If you need more specific information or examples, I recommend providing more context or specifics.