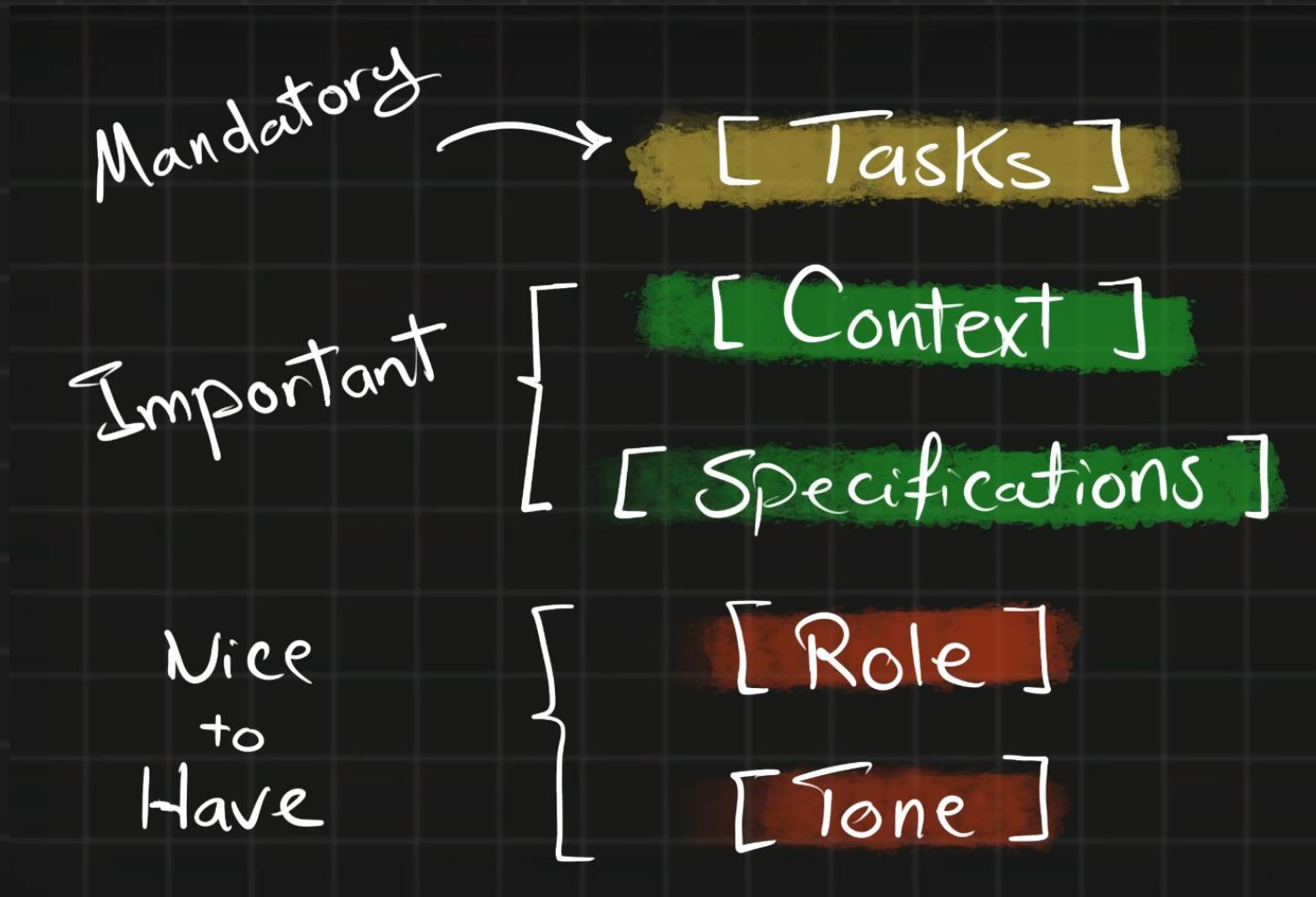
Prompt Components



DATA WITH B

DATA WITH BARAA

Chat GPT

- Brainstorming & Ideas
- Project Planning
- Learning, Knowledge & Research
- Generate Documentations
- Discussing Architecture
- Exploring Best Practices
- Complex Problem-Solving

Copilot

- Coding Assistance
- Debugging
- Refactoring
- Inline Comments
- Quick Fixes
- Styling & Formating Code

#1 Solve an SQL Task

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[PROMPT...]

In my SQL Server database, we have two tables:

The first table is `orders` with the following columns: order_id, sales, customer_id, product_id.

The second table is `customers` with the following columns: customer_id, first_name, last_name, country.

Do the following:

- Write a query to rank customers based on their sales.
- The result should include the customer's customer_id, full name, country, total sales, and their rank.
- Include comments but avoid commenting on obvious parts.
- Write three different versions of the query to achieve this task.
- Evaluate and explain which version is best in terms of readability and performance

#2 Improve the Readability

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`[PROMPT...]`

The following SQL Server query is long and hard to understand.

Do the following:

- Improve its readability.
- Remove any redundancy in the query and consolidate it.
- Include comments but avoid commenting on obvious parts.
- Explain each improvement to understand the reasoning behind it.

```
[ SQL Query GOES HERE ]
```

#3 Optimize the Performance Query

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`[PROMPT...]`

The following SQL Server query is slow.

Do the following:

Propose optimizations to improve its performance.

Provide the improved SQL query.

Explain each improvement to understand the reasoning behind it.

`[ SQL Query GOES HERE ]`

#4 Optimize Execution Plan

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```
[PROMPT...]
```

The image is the execution plan of SQL Server query.

Do the following:

- Describe the execution plan step by step.
- Identify performance bottlenecks and issues.
- Suggest ways to improve performance and optimize the execution plan.

```
[ SQL Query GOES HERE ]
```

#5 Debugging

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`[PROMPT...]`

The following SQL Server Query causing this error: *`[Error Message GOES HERE]`*

Do the following:

- Explain the error massage.
- Find the root cause of the issue.
- Suggest how to fix it.

`[ SQL Query GOES HERE ]`

#6 Explain the Result

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```
[PROMPT...]
```

I didn't understand the result of the following SQL Server query.

Do the following:

Break down how SQL processes the query step by step.

Explaining each stage and how the result is formed.

```
[ SQL Query GOES HERE ]
```

#7 Styling & Formatting

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```
[PROMPT...]
```

The following SQL Server query hard to understand.

Do the following:

- Restyle the code to make it easier to read.
- Align column aliases.
- Keep it compact - do not introduce unnecessary new lines.
- Ensure the formatting follows best practices.

```
[ SQL Query GOES HERE ]
```

#8 Documentations & Comments

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[PROMPT...]

The following SQL Server query lacks comments and documentation.

Do the following:

- Insert a leading comment at the start of the query describing its overall purpose.
- Add comments only where clarification is necessary, avoiding obvious statements.
- Create a separate document explaining the business rules implemented by the query.
- Create another separate document describing how the query works.

```
[ SQL Query GOES HERE ]
```

#9 Improve Database DDL

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```
[PROMPT...]
```

The following SQL Server DDL Script has to be optimized.

Do the following:

- **Naming**: Check the consistency of table/column names, prefixes, standards.
- **Data Types**: Ensure data types are appropriate and optimized.
- **Integrity**: Verify the integrity of primary keys and foreign keys.
- **Indexes**: Check that indexes are sufficient and avoid redundancy.
- **Normalization**: Ensure proper normalization and avoid redundancy.

```
[ SQL DDL GOES HERE ]
```

#10 Generate Test Dataset

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[PROMPT...]

I need dataset for testing the following SQL Server DDL

Do the following:

- Generate test dataset as Insert statements.
- Dataset should be realstic.
- Keep the dataset small.
- Ensure all primary/foreign key relationships are valid (use matching IDs).
- Dont introduce any Null values.

```
[ SQL DDL GOES HERE ]
```

#11 Create SQL Course

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[PROMPT...]

Create a comprehensive SQL course with a detailed roadmap and agenda.

Do the following:

- Start with SQL fundamentals and advance to complex topics.
- Make it beginner-friendly.
- Include topics relevant to data analytics.
- Focus on real-world data analytics use cases and scenarios.

#12 Understand SQL Concept

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[PROMPT...]

I want detailed explanation about SQL Window Functions.

Do the following:

- Explain what Window Functions are.
- Give an analogy.
- Describe why we need them and when to use them.
- Explain the syntax.
- Provide simple examples.
- List the top 3 use cases.

#13 Comparing SQL Concepts

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[PROMPT...]

I want to understand the differences between SQL Windows and GROUP BY.

Do the following:

- Explain the key differences between the two concepts.
- Describe when to use each concept, with examples.
- Provide the pros and cons of each concept.
- Summarize the comparison in a clear side-by-side table.

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#14 Practice SQL

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[PROMPT...]

Act as an SQL trainer and help me practice SQL Window Functions.

Do the following:

- Make it interactive Practicing, you provide task and give solution.
- Provide a sample dataset.
- Give SQL tasks that gradually increase in difficulty.
- Act as an SQL Server and show the results of my queries.
- Review my queries, provide feedback, and suggest improvements.

#15 Prepare for a SQL Interview

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[PROMPT...]

Act as Interviewer and prepare me for a SQL interview.

Do the following:

- Ask common SQL interview questions.
- Make it interactive Practicing, you provide question and give answer.
- Gradually progress to advanced topics.
- Evaluate my answer and give me a feedback.

#16 Prepare for a SQL Exam

`[PROMPT...]`

Prepare me for a SQL exam

Do the following:

- Ask common SQL interview questions.
- Make it interactive Practicing, you provide question and give answer.
- Gradually progress to advanced topics.
- Evaluate my answer and give me a feedback.