3.7 Combining Structural Elements

Throughout this chapter, we have explored several structural elements that individually enhance the generated content produced by language models. In this section, we will discuss how to combine these elements to create comprehensive and effective prompts. By integrating multiple elements such as instructions, context, input parameters, output format, constraints, and delimiters, you can provide the language model with the necessary information and guidance, enabling it to generate high-quality content that meets your specific requirements.

Let's dive into a practical example to demonstrate how combining structural elements can enhance the effectiveness of a prompt.

3.7.1 Practical Example 1: Generating Product Descriptions

In this scenario, you want the language model to generate product descriptions for a new smartwatch.

PROMPT TEMPLATE

```
Product Details

Name: {product_name}
Features: {product_features}
Instructions: Write a product description for the {product_name} smartwatch, focusing on
its key features and benefits. Use a friendly and engaging tone to encourage readers to
purchase the product.

Constraints:
- Limit the description to 150-200 words
- Avoid mentioning competitor products

Output Format:
[Product Name]: [Brief introduction highlighting main selling points]
- [Feature 1] - [Benefit 1]
- [Feature 2] - [Benefit 2]
- [Feature 3] - [Benefit 3]

[Call-to-action encouraging readers to purchase the smartwatch]
```

PROMPT

```
Product Details
Name: SmartChef Assistant
Features: Voice-controlled cooking assistant, recipe database, nutritional information,
hands-free operation, sleek design
Instructions: Write a product description for the SmartChef Assistant smartwatch,
focusing on its key features and benefits. Use a friendly and engaging tone to encourage
readers to purchase the product.
Constraints:
- Limit the description to 150-200 words
- Avoid mentioning competitor products

Output Format:
[Product Name]: [Brief introduction highlighting main selling points]
- [Feature 1] - [Benefit 1]
- [Feature 2] - [Benefit 2]
- [Feature 3] - [Benefit 3]

[Call-to-action encouraging readers to purchase the smartwatch]
```

GENERATED CONTENT

```
SmartChef Assistant: Elevate Your Cooking Experience!
-          Voice-controlled cooking assistant: Say goodbye to messy hands! With
SmartChef Assistant, you can control your cooking process simply by speaking commands.
No need to fiddle with buttons or touch screens while your hands are covered in
ingredients.
-          Recipe database: Never run out of inspiration again! Access a vast library
of recipes right on your wrist. From quick weeknight dinners to gourmet delights, the
SmartChef Assistant has you covered with endless culinary possibilities.
-          Nutritional information: Stay on track with your health goals effortlessly!
Get instant access to nutritional information for every recipe, helping you make
informed choices that align with your dietary needs and preferences.
-          Hands-free operation: Focus on the joy of cooking without distractions! The
SmartChef Assistant allows you to operate it hands-free, letting you concentrate on
perfecting your dish while it handles the technicalities.
With its sleek design and cutting-edge features, the SmartChef Assistant is a must-have
for any aspiring home chef. Upgrade your kitchen experience today!
Unlock a world of culinary possibilities with SmartChef Assistant. Get yours now and
start cooking like a pro!
```

The generated product description effectively showcases the key features and benefits of the smartwatch while maintaining the desired tone and adhering to the specified constraints, demonstrating the power and effectiveness of combining structural elements in the prompt.

We combine input parameters (product name and features), instructions (including the desired tone), output format (using the template pattern), constraints (word count and avoiding competitor mentions).

By strategically combining these structural elements, the prompt becomes more comprehensive and effective, guiding the language model to generate a high-quality product description that highlights the key features and benefits of the smartwatch while maintaining a friendly and engaging tone.

The combination of these elements helps solve the problem of generating a compelling product description more effectively than using individual elements separately.

3.7.2 Practical Example 2: Writing News Article Summaries

You need the language model to generate summaries for news articles.

PROMPT TEMPLATE

```
```
Additional Context: You are a journalist tasked with writing summaries for news articles
to be featured in a daily newsletter.
Instructions: Provide a concise summary of the following news article, focusing on the
main points and key takeaways. Use clear and concise language suitable for a general
audience and maintain a neutral and objective tone.
Constraints:
- Keep the summary within 100-150 words

Article:
```
{{article_text}}
```

Output Format:
Main Topic: [Brief introduction capturing the main topic of the article]

Key Points:
- [Key point 1]
- [Key point 2]
- [Key point 3]

Significance: [Sentence highlighting the article's significance or impact]
```
```

PROMPT

```
Additional Context: You are a journalist tasked with writing summaries for news articles
to be featured in a daily newsletter.
Instructions: Provide a concise summary of the following news article, focusing on the
main points and key takeaways. Use clear and concise language suitable for a general
audience and maintain a neutral and objective tone.
Constraints:
- Keep the summary within 100-150 words

Article:
```
```
In a groundbreaking study, researchers at Oakwood University have discovered a new
treatment for Alzheimer's disease. The study, published in the Journal of Neuroscience,
found that a combination of two existing drugs, Drug A and Drug B, significantly reduced
the progression of the disease in mice. The researchers believe that this combination
therapy could potentially slow down the cognitive decline in humans with Alzheimer's.
The findings have been hailed as a major breakthrough in the field, offering hope for
the millions of people affected by the disease worldwide. Further clinical trials are
planned to test the efficacy and safety of the treatment in humans.
```
```

Output Format:
Main Topic: [Brief introduction capturing the main topic of the article]

Key Points:
- [Key point 1]
- [Key point 2]
- [Key point 3]

Significance: [Sentence highlighting the article's significance or impact]
```
```

## GENERATED CONTENT

```
Main Topic: New Alzheimer's treatment shows promise in mice study
Key Points:
- Researchers at Oakwood University discovered that combining two existing drugs, Drug A
and Drug B, slowed Alzheimer's progression in mice.
- The study, published in the Journal of Neuroscience, indicates potential for slowing
cognitive decline in human Alzheimer's patients.
- Further clinical trials are planned to assess the safety and effectiveness of this
combination therapy in humans.

Significance: This groundbreaking study offers hope for Alzheimer's patients,
potentially providing a significant breakthrough in treatment options for the disease.
```

In this practical example, various structural elements are combined to create an effective prompt for generating news article summaries. The prompt template includes context, instructions, input parameters with placeholders, output format using the Template Pattern, and constraints on the word count.

The prompt's context sets the stage for the journalist's task, providing a clear understanding of the role and objectives. The instructions offer precise guidelines for crafting the summary, ensuring focus on key points, appropriate language style, and maintaining a neutral tone.

The `{{article_text}}` input placeholder allows for dynamic insertion of the article text into the prompt, making it reusable for different articles.

The output format specifies the desired structure of the summary, with sections for the main topic, key points, and significance, using the Template Pattern.

The constraint on the word count ensures that the generated summary remains concise and adheres to the specified length. In the prompt section, a specific article text is provided, dynamically replacing the `{{article_text}}` placeholder.

The generated output showcases the language model's ability to generate a well-structured and concise summary of the news article, following the specified output format and constraints. It captures the main topic, key points, and significance in a neutral and objective tone suitable for a general audience.

By combining these structural elements, the prompt provides the necessary guidance and structure for the language model to generate high-quality news article summaries efficiently. The delimiters (triple backticks) help separate the article text from the rest of the prompt, making it easier for the model to process the information.

This practical example demonstrates how combining structural elements like context, instructions, inputs, output format, constraints, and delimiters can create comprehensive and effective prompts that solve specific problems, such as summarizing news articles for a daily newsletter.

HANDS-ON PRACTICE

To reinforce the concept of combining structural elements, try creating prompts that combine different elements for the following scenarios:

1. Generating a product review (instructions, inputs using placeholders and delimiters, output format using the Output Indicator, constraints)
2. Writing a job description (context, instructions, output format using the Template Pattern, constraints)
3. Creating a social media post about a new restaurant (instructions, inputs using placeholders and delimiters, output format using the Output Indicator, constraints on tone)

Experiment with different combinations of structural elements and see how they impact the quality and effectiveness of the generated content. Each scenario presents a unique opportunity to practice combining different structural elements effectively.

By exploring these scenarios, you can gain hands-on experience in creating prompts that generate high-quality content tailored to specific requirements. Remember to iterate and refine your prompts based on the results and feedback, as this process will help you develop a deeper understanding of how to effectively combine structural elements to achieve your desired outcomes.

In this chapter, we've explored the fundamental building blocks of effective prompts: instructions, context, input parameters, output format, constraints, and delimiters. By strategically combining these structural elements, you can create comprehensive prompts that guide language models to generate high-quality, relevant, and coherent outputs tailored to your specific requirements.

Let's summarize the key principles for each structural element:

- **Instructions:** Craft clear, concise, and actionable instructions that define the task for the language model. Use specific language and avoid ambiguity.
- **Context:** Incorporate relevant background information and context to help the model understand the domain, scope, and purpose of the task.
- **Input Parameters:** Utilize input placeholders to create flexible and reusable prompt templates. Place inputs strategically within the prompt to maintain clarity and coherence.
- **Output Format:** Specify the desired structure and presentation of the generated content using patterns like the Output Indicator, Template Pattern, or Output Style and Tone.
- **Constraints:** Apply targeted constraints to refine and control various aspects of the model's output, such as length, style, and tone. Ensure that the constraints align with the overall task and are clear and specific.
- **Delimiters:** Use clear and distinguishable delimiters to separate and organize different prompt components, making it easier for the language model to process instructions and context.