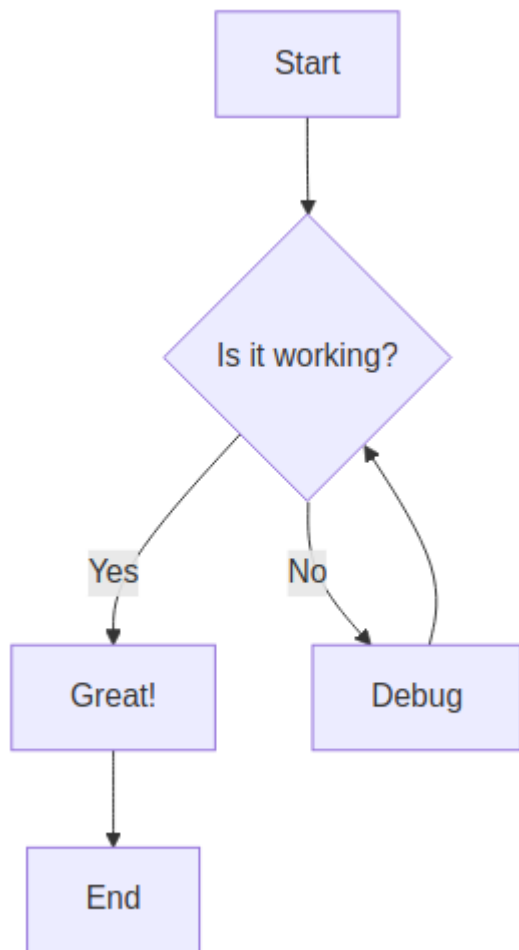# Mermaid Diagram Test
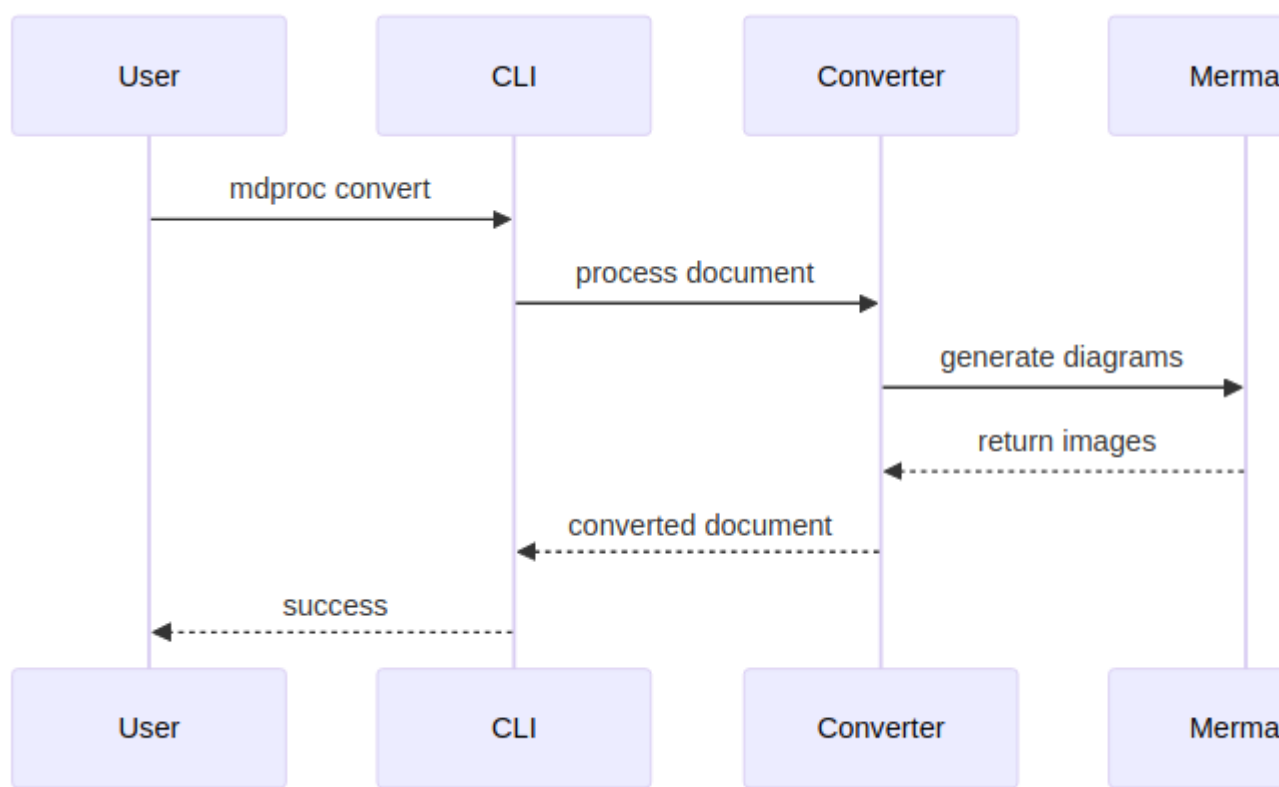
This document tests Mermaid diagram support in our markdown processor.
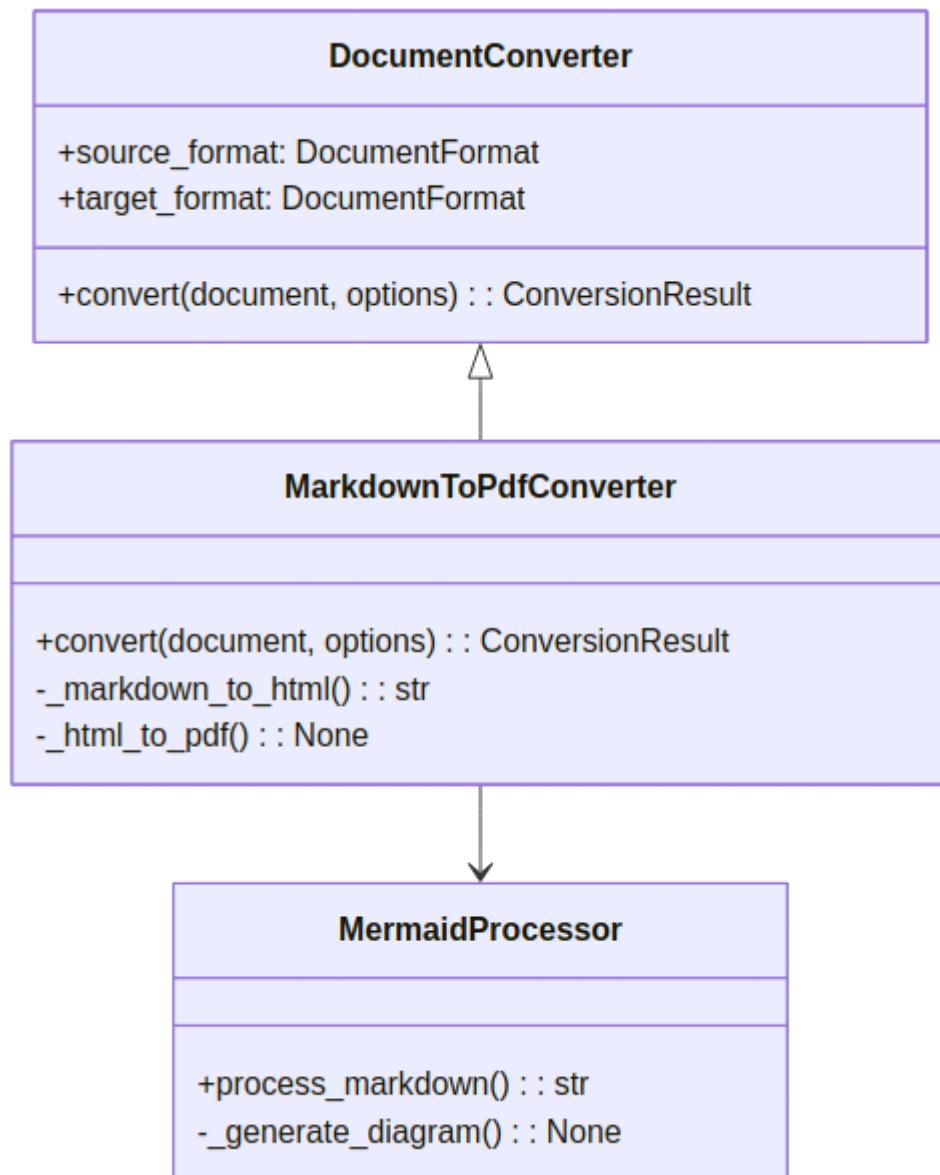
Flowchart Example

Sequence Diagram

User → CLI: mdproc convert
CLI → Converter: process document
Converter → Mermaid: generate diagrams
Mermaid ⇢ Converter: return images
Converter ⇢ CLI: converted document
CLI ⇢ User: success

Class Diagram

```
┌─────────────────────────────────────────────────┐
│               DocumentConverter                 │
├─────────────────────────────────────────────────┤
│ +source_format: DocumentFormat                  │
│ +target_format: DocumentFormat                  │
├─────────────────────────────────────────────────┤
│ +convert(document, options) : : ConversionResult│
└─────────────────────────────────────────────────┘
                        △
                        │
┌─────────────────────────────────────────────────┐
│              MarkdownToPdfConverter             │
├─────────────────────────────────────────────────┤
│                                                 │
├─────────────────────────────────────────────────┤
│ +convert(document, options) : : ConversionResult│
│ -_markdown_to_html() : : str                    │
│ -_html_to_pdf() : : None                        │
└─────────────────────────────────────────────────┘
                        │
                        ▼
         ┌────────────────────────────────┐
         │        MermaidProcessor        │
         ├────────────────────────────────┤
         │                                │
         ├────────────────────────────────┤
         │ +process_markdown() : : str    │
         │ -_generate_diagram() : : None  │
         └────────────────────────────────┘
```
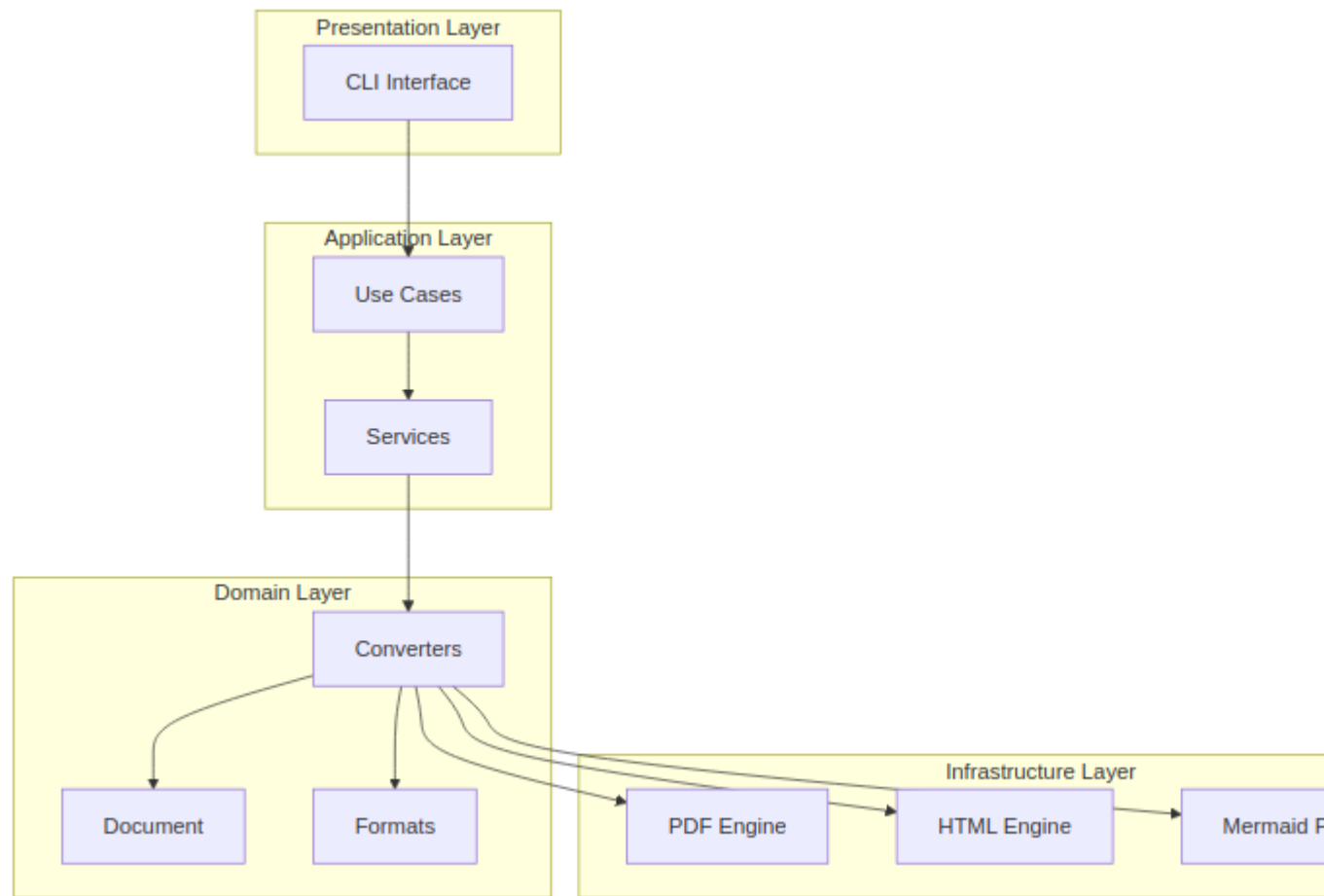
Architecture Overview

This demonstrates how our hexagonal architecture handles Mermaid diagrams:

Summary

The Mermaid integration allows us to:

1. **Process diagrams** automatically during conversion
2. **Support multiple formats** (PNG for PDF, SVG for HTML)
3. **Maintain clean architecture** with proper separation of concerns
4. **Provide fallback handling** when diagram generation fails

This enhances our document processor significantly for technical documentation!