# Mermaid Diagram Test

This document tests Mermaid diagram support in our markdown processor.

## Flowchart Example

flowchart TD  
 A[Start] --> B{Is it working?}  
 B -->|Yes| C[Great!]  
 B -->|No| D[Debug]  
 D --> B  
 C --> E[End]

## Sequence Diagram

sequenceDiagram  
 participant User  
 participant CLI  
 participant Converter  
 participant Mermaid  
   
 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

classDiagram  
 class DocumentConverter {  
 +source\_format: DocumentFormat  
 +target\_format: DocumentFormat  
 +convert(document, options): ConversionResult  
 }  
   
 class MarkdownToPdfConverter {  
 +convert(document, options): ConversionResult  
 -\_markdown\_to\_html(): str  
 -\_html\_to\_pdf(): None  
 }  
   
 class MermaidProcessor {  
 +process\_markdown(): str  
 -\_generate\_diagram(): None  
 }  
   
 DocumentConverter <|-- MarkdownToPdfConverter  
 MarkdownToPdfConverter --> MermaidProcessor

## Architecture Overview

This demonstrates how our hexagonal architecture handles Mermaid diagrams:

graph TB  
 subgraph "Presentation Layer"  
 CLI[CLI Interface]  
 end  
   
 subgraph "Application Layer"  
 UC[Use Cases]  
 SVC[Services]  
 end  
   
 subgraph "Domain Layer"  
 DOC[Document]  
 CONV[Converters]  
 FMT[Formats]  
 end  
   
 subgraph "Infrastructure Layer"  
 PDF[PDF Engine]  
 HTML[HTML Engine]  
 MERM[Mermaid Processor]  
 end  
   
 CLI --> UC  
 UC --> SVC  
 SVC --> CONV  
 CONV --> PDF  
 CONV --> HTML  
 CONV --> MERM  
   
 CONV --> DOC  
 CONV --> FMT

## 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!