

# Markdown to PDF Converter

This is a demonstration of the markdown to PDF converter with support for various technical documentation features.

## Features

- **Math formulas** using KaTeX
- **Mermaid diagrams** for flowcharts and diagrams
- **Syntax highlighting** for code blocks
- **GitHub Flavored Markdown** features like tables and strikethrough

## Math Formulas

Here's an inline math formula:  $E = mc^2$

And here's a display formula:

$$\int_{-\infty}^{\infty} e^{-x^2} dx = \sqrt{\pi}$$

Complex formula with matrices:

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} ax + by \\ cx + dy \end{pmatrix}$$

Formula in code-blocks:

$price = \max(unitPrice, 1e18) collateralAmount = \frac{usdAmount \times 10^{decimals}}{price}$

## Code Blocks with Syntax Highlighting

### JavaScript

```
function fibonacci(n) {
  if (n <= 1) return n;
  return fibonacci(n - 1) + fibonacci(n - 2);
}
```

```
console.log(fibonacci(10)); // Output: 55
```

### Python

```
def quick_sort(arr):
    if len(arr) <= 1:
        return arr

    pivot = arr[len(arr) // 2]
    left = [x for x in arr if x < pivot]
    middle = [x for x in arr if x == pivot]
    right = [x for x in arr if x > pivot]

    return quick_sort(left) + middle + quick_sort(right)

# Example usage
numbers = [64, 34, 25, 12, 22, 11, 90]
print(quick_sort(numbers))
```

## SQL

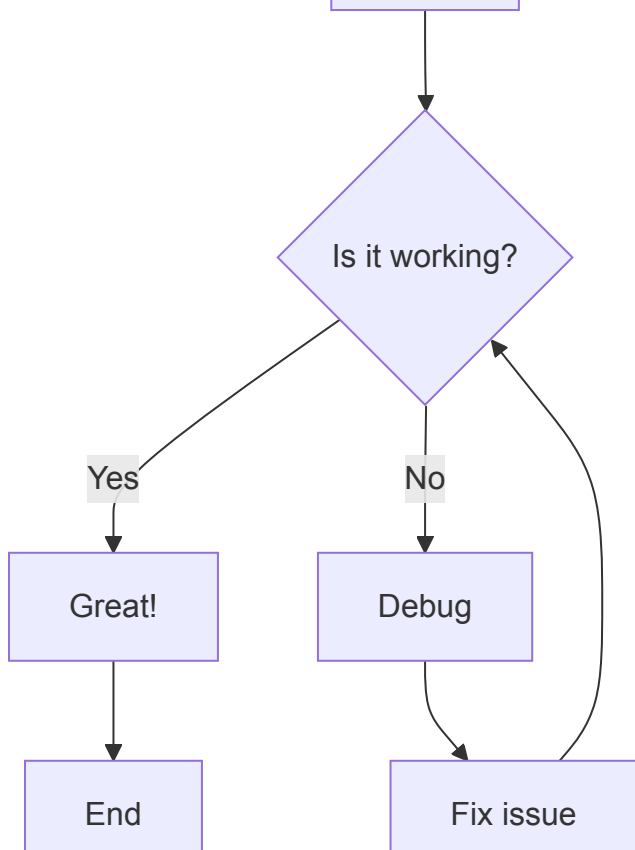
```
SELECT
    users.name,
    COUNT(orders.id) as order_count,
    SUM(orders.total) as total_spent
FROM users
LEFT JOIN orders ON users.id = orders.user_id
WHERE users.created_at >= '2023-01-01'
GROUP BY users.id, users.name
HAVING COUNT(orders.id) > 5
ORDER BY total_spent DESC;
```

## Tables

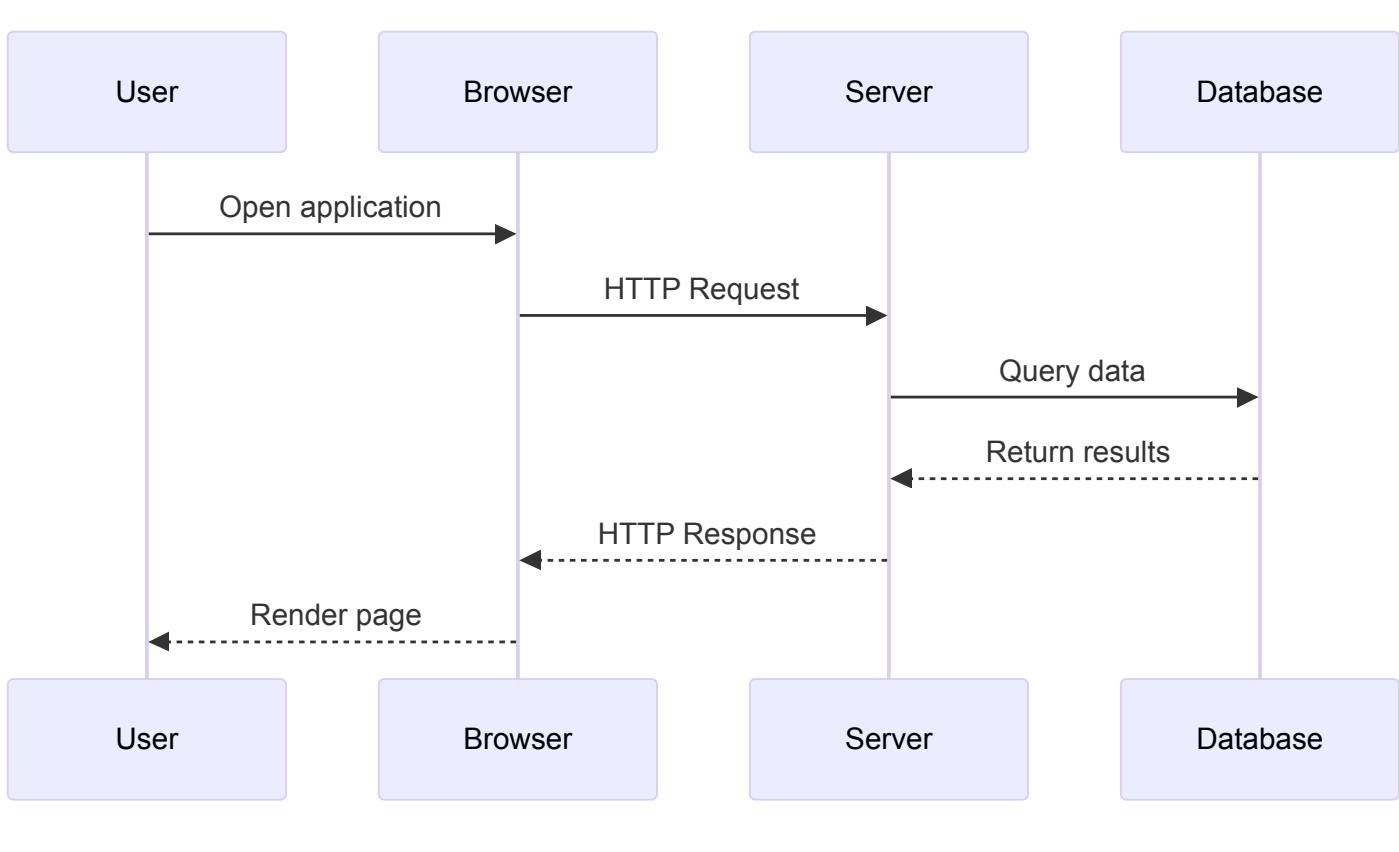
Language	Paradigm	First Appeared	Popular Use Cases
JavaScript	Multi-paradigm	1995	Web development, Node.js
Python	Multi-paradigm	1991	Data science, AI, Web
Rust	Systems	2010	Systems programming
Go	Procedural	2009	Cloud services, APIs

## Mermaid Diagrams

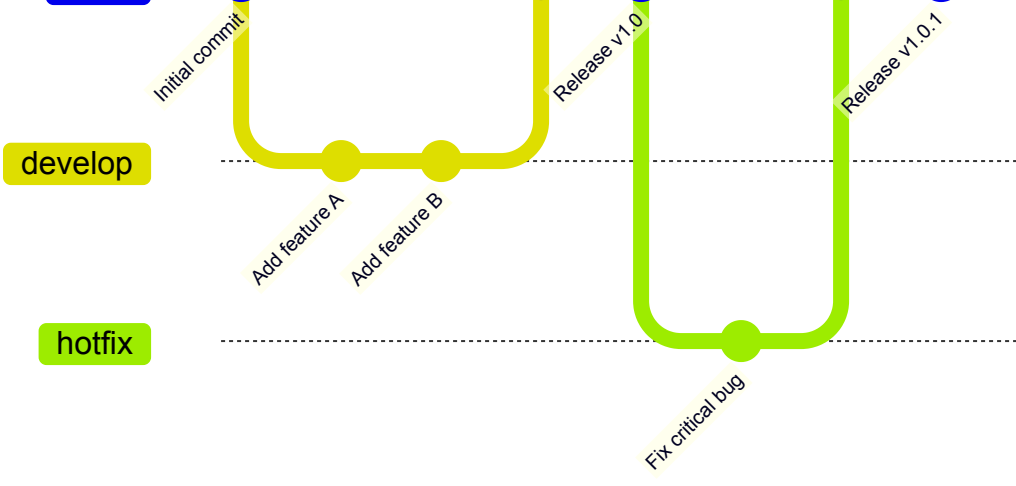
### Flowchart



### Sequence Diagram



### Git Flow Diagram



## GitHub Flavored Markdown Features

### Task Lists

- ☒ Set up project structure
- ☒ Implement markdown processing
- ☒ Add PDF generation
- ☐ Add tests
- ☐ Create documentation
- ☐ Publish to npm

### Strikethrough

This text is ~~strikethrough~~.

### Blockquotes

"The best way to predict the future is to create it."

— Peter Drucker

### Links and Images

Check out the [GitHub repository](#) for more information.

## Advanced Features

### Nested Lists

1. First level
  - Second level item 1
  - Second level item 2
    - Third level item
    - Another third level item
2. Another first level item
  1. Numbered second level
  2. Another numbered item

### Code with Line Numbers

```
#!/bin/bash
set -e

# Install dependencies
npm install

# Build the project
npm run build

# Run tests
npm test

# Deploy to production
npm run deploy
```

This document demonstrates the various features supported by the Markdown to PDF converter. The output should maintain proper formatting, syntax highlighting, mathematical notation, and diagram rendering.