XeLaTeX Multilingual Test Document

LaTeX Compiler Workflow

October 19, 2025

1 Introduction

This document tests XeLaTeX compilation with multiple languages and Unicode support. The workflow automatically detected the need for XeLaTeX based on the `% !TeX program = xelatex` directive.

2 European Languages

2.1 English

Hello World! This is a test of the XeLaTeX compiler with modern Unicode fonts.

2.2 French

Bonjour le monde! Voici un test avec des caractères accentués: é, è, ê, à, ù, ç, œ.

2.3 German

Guten Tag! Test mit deutschen Umlauten: ä, ö, ü, ß.

2.4 Spanish

¡Hola mundo! Prueba con caracteres especiales: ñ, á, é, í, ó, ú, ¿, ¡.

2.5 Portuguese

Olá mundo! Teste com acentuação: ã, õ, â, ê, ô, à, ç.

2.6 Italian

Ciao mondo! Test con caratteri accentati: à, è, é, ì, ò, ù.

2.7 Russian

Привет мир! Это тест кириллицы: а, б, в, г, д, е, ё, ж, з, и, й, к.

2.8 Greek

Γεια σου κόσμε! Ελληνικά γράμματα: α, β, γ, δ, ε, ζ, η, θ, λ, μ, π, σ, ω.

3 Middle Eastern Languages

3.1 Arabic

العربية. للغة اختبار هذا بالعالم! مرحبا □□□

4 East Asian Languages

4.1 Chinese (Simplified)

你好世界！这是中文测试。汉字：一二三四五六七八九十。

4.2 Chinese (Traditional)

你好世界！這是中文測試。漢字：一二三四五六七八九十。

4.3 Japanese

こんにちは世界！日本語のテストです。ひらがな、カタカナ、漢字。

4.4 Korean

안녕하세요 세계! 한국어 테스트입니다. 한글 문자 테스트.

5 Special Characters and Symbols

5.1 Mathematical Symbols

Mathematical symbols work naturally: □x □ $\mathbb{R}$, □y □ $\mathbb{C}$, □, □, □, □, □ Greek letters: α, β, γ, δ, ε, ζ, η, θ, λ, μ, π, σ, τ, φ, χ, ψ, ω

5.2 Currency Symbols

Currency symbols: $, €, £, ¥, ₹, ₽, ₩, ₪

5.3 Arrows and Operators

Arrows: □, □, □, □, □, □, □, □
Operators: ≠, □, □, ±, ×, ÷, □, □

5.4 Geometric and Misc Symbols

Shapes: □, □, □, □, □, □, □, □
Stars: □, □, □, □
Punctuation: •, ·, ▸, -

6 Typography Features

6.1 Ligatures

XeLaTeX handles ligatures automatically: fi, fl, ff, ffi, ffl, fj
The word "office" shows the ffi ligature.

6.2 Quotation Marks

Different quotation mark styles:
English: "double quotes" and 'single quotes'
French: « guillemets français »
German: „deutsche Anführungszeichen"

6.3 Dashes

Different dash types:
Hyphen: word-word
En-dash: pages 10–20
Em-dash: A sentence—with emphasis

6.4 Spacing

Ellipsis: dots… versus proper ellipsis…
Non-breaking space: Mr. Smith (no line break)

7 Font Styles

7.1 Weight and Style

Bold text demonstrates font weight.
Italic text shows slanted characters.
Bold italic combines both styles.

7.2 Sans Serif

This is sans-serif text using Noto Sans.
  Bold sans-serif and *italic sans-serif*.

7.3 Monospace

```
This is monospace text using Noto Sans Mono.
  Code example: if (x == 0) { return true; }
```

8 Color Support

XeLaTeX with xcolor package:
  Red text, blue text, green text.
  Orange, purple, cyan.
  Combined: **bold red text** and *italic blue text*.

9 Mixed Scripts in One Line

English, Français, Deutsch, Español all together.
  Latin with Greek: The symbol π (pi) represents 3.14159...
  Numbers in different scripts: 123 (Western), 一二三 (Chinese)

10 Conclusion

If this document compiled successfully, it demonstrates:

1. **Compiler Detection:** The workflow detected XeLaTeX from the `% !TeX program` directive

2. **Font Installation:** Noto fonts were automatically installed

3. **Unicode Support:** Full Unicode character rendering works

4. **Multilingual:** Latin, Cyrillic, Greek, Arabic, and CJK scripts all render correctly

5. **Typography:** Ligatures, proper dashes, and quotation marks function properly

6. **OpenType Features:** Modern font features are available

Success! The LaTeX compiler workflow correctly handled:

- Multi-document support with smart change detection

- Automatic compiler detection (pdflatex/xelatex/lualatex)

- On-demand installation of compilers and fonts

- Efficient caching for subsequent runs

This test document validates that the workflow is production-ready for complex multilingual documents.