Mathematics Knowledge Graph Wiki

Welcome to the Mathematics Knowledge Graph Wiki

This is an evolving wiki of mathematical knowledge represented as a **knowledge graph**. Our goal is to represent the entire landscape of mathematics as interconnected nodes of **axioms, definitions, theorems, and examples**.

Features

- **Semantic Knowledge Graph**: All mathematical concepts are connected through formal relationships
- **Cross-Referenced Content**: Navigate between related concepts seamlessly
- **Formal Verification**: Integration with Lean 4 for mathematical rigor
- **Interactive Visualizations**: Explore the graph structure visually
- **SPARQL Queries**: Query the knowledge graph for complex relationships

Mathematical Domains

Explore mathematics by domain:

- Algebra
- Analysis
- Topology
- Geometry
- Number Theory
- Combinatorics
- Logic & Set Theory
- Probability & Statistics
- Category Theory

Getting Started

Each mathematical concept in this wiki is:

1. Written as a human-readable document
2. Structured with semantic metadata
3. Connected to related concepts through formal relationships
4. Queryable through our knowledge graph interface

Contributing

This wiki is built using: - **Quarto** for content authoring - **RDF/OWL** for semantic representation - **Python** for graph extraction and processing - **Lean 4** for formal verification

To contribute, please see our contribution guidelines.

Query the Knowledge Graph

Coming soon: Interactive query interface for exploring mathematical relationships.