

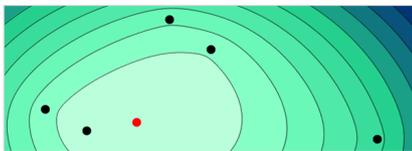
# What's New in WOLFRAM LANGUAGE 12

With its unique computational intelligence approach, the Wolfram Language follows a bold vision of integrating and automating as much computation and knowledge as possible directly into the language. Version 12 brings a host of major new areas into the domain of the language—building on Wolfram's steady stream of algorithm, design and engineering breakthroughs.



Fully deployable on desktop, cloud, mobile and embedded systems, Version 12 lets anyone immediately use the latest multiparadigm data science and machine learning, work with blockchains and seamlessly access the full Wolfram Knowledgebase or custom databases—either directly in interactive notebooks or through deployed APIs and external languages.

## Featured Wolfram Language 12 Areas



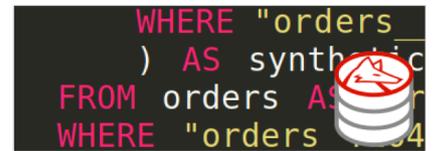
### DATA SCIENCE & COMPUTATION

- Uncertainty, Units & Dates
- Probability & Statistics
- Graphs & Networks
- Data Import & Export



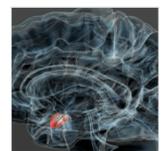
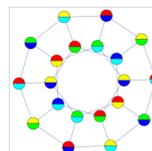
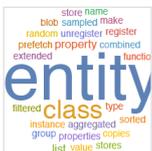
### CORE LANGUAGE & NOTEBOOK INTERFACE

- Core Language
- Code Compilation
- Cryptography
- Notebook Interface



### EXTERNAL & DATABASE OPERATIONS

- Relational Database Integration
- RDF, SPARQL & Graph Databases
- External Languages & Systems
- Mail & Messaging
- Networking & System Operations



### WOLFRAM KNOWLEDGEBASE

- Knowledgebase Query Language
- Cultural & Historical Entities
- Physics & Chemistry Entities

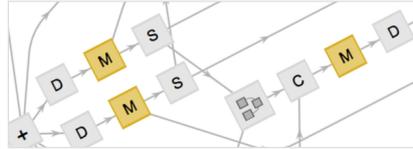
- Geographic Entities
- Biological & Medical Entities
- Astronomy & Space Science Entities

- Financial & Socioeconomic Entities
- Food & Nutrition Entities
- Mathematical Entities



### IMAGE & AUDIO

Image Computation  
 Audio Computation  
 Image Computation for Microscopy  
 Machine Learning for Images  
 Machine Learning for Audio



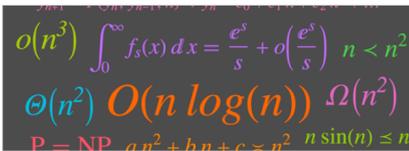
### MACHINE LEARNING

Machine Learning Superfunctions  
 Neural Network Framework  
 Machine Learning for Images  
 Machine Learning for Audio  
 Natural Language Processing



### REAL-WORLD SYSTEMS

System Modeling  
 Molecular Structure  
 Blockchains  
 Microcontroller Deployment  
 Unity Game Engine



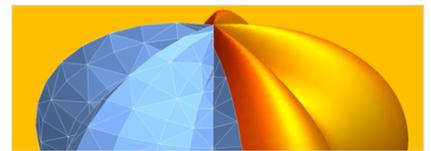
### SYMBOLIC & NUMERIC COMPUTATION

Asymptotics  
 Calculus  
 Algebra  
 Convex Optimization  
 Nonlinear Finite Elements



### VISUALIZATION & GRAPHICS

Core Visualization  
 Labeled Visualization  
 Complex Visualization  
 Geographic Visualization



### GEOMETRY & GEOGRAPHY

Geometric Computation  
 Polygons & Polyhedra  
 Nonlinear Finite Elements  
 High-School Geometry  
 New in Geo Computation



### MATHEMATICA

Representing another major milestone in a unique journey spanning 30+ years, Mathematica 12 significantly extends the reach of Mathematica and introduces many innovations that give all Mathematica users new levels of power and effectiveness.

Explore more of what's new in Mathematica:  
[www.wolfram.com/mathematica/new-in-12](http://www.wolfram.com/mathematica/new-in-12)

Try, buy or upgrade to Mathematica 12:  
[www.wolfram.com/mathematica/pricing](http://www.wolfram.com/mathematica/pricing)



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