

# 98 symbols glossary

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## 1 API Symbols Glossary

This glossary is auto-generated from the public API in `api.py` by `api2glossary.py`.

Module	Name	Kind	Summary
<code>api</code>	<code>BuildResult</code>	class	Container for build verification results.
<code>api</code>	<code>calculate_hash</code>	function	Calculate hash of a file for integrity verification.
<code>api</code>	<code>create_report</code>	function	Create a comprehensive build validation report.
<code>api</code>	<code>create_script</code>	function	Create a comprehensive build verification script.
<code>api</code>	<code>create_report_combined</code>	function	Create a comprehensive build report combining all verification results.
<code>api</code>	<code>create_manifest</code>	function	Create an integrity manifest for build verification.
<code>api</code>	<code>load_manifest</code>	function	Load integrity manifest from file.
<code>api</code>	<code>run_build</code>	function	Run a build command and capture output.
<code>api</code>	<code>save_manifest</code>	function	Save integrity manifest to file.

Module	Name	Kind	Summary
■	■	function	Validate build configuration and settings.
■	■	function	Validate that a build script is properly structured.
■	■	function	Verify that expected build artifacts are present and correct.
■	■	function	Verify that the build environment is properly configured.
■	■	function	Verify build integrity against a baseline.
■	■	function	Verify build reproducibility by running build multiple times.
■	■	function	Verify consistency between dependency files.
■	■	function	Verify integrity between two manifests.
■	■	function	Verify that output directory has expected structure.
■	■	function	Add two numbers together.
■	■	function	Calculate the average of a list of numbers.
■	■	function	Find the maximum value in a list of numbers.
■	■	function	Find the minimum value in a list of numbers.
■	■	function	Check if a number is even.
■	■	function	Check if a number is odd.
■	■	function	Multiply two numbers together.

Module	Name	Kind	Summary
■	■	class	Represents a public API entry from source code.
■	■	function	Scan ■ and collect public functions/classes with summaries.
■	■	function	Generate a Markdown table from API entries.
■	■	function	Replace content between begin_marker and end_marker (inclusive markers preserved).
■	■	class	Container for integrity verification results.
■	■	function	Calculate hash of a file for integrity verification.
■	■	function	Check file permissions and accessibility.
■	■	function	Create an integrity manifest for all output files.
■	■	function	Generate a human-readable integrity report.
■	■	function	Load integrity manifest from file.
■	■	function	Save integrity manifest to file.
■	■	function	Validate that all expected build artifacts are present and correct.
■	■	function	Verify compliance with academic writing standards.
■	■	function	Verify cross-reference integrity in markdown files.
■	■	function	Verify data file consistency and integrity.

Module	Name	Kind	Summary
■	■	function	Verify file integrity using hash comparison.
■	■	function	Verify current integrity against a saved manifest.
■	■	function	Verify that all expected outputs are present and complete.
■	■	function	Perform comprehensive integrity verification of all outputs.
■	■	class	Raised when PDF validation encounters an error.
■	■	function	Extract the first N words from text, preserving punctuation.
■	■	function	Extract all text content from a PDF file.
■	■	function	Scan extracted text for common rendering issues.
■	■	function	Perform comprehensive validation of PDF rendering.
■	■	class	Container for citation style configuration.
■	■	class	Container for publication metadata.
■	■	function	Calculate a complexity score for the publication.
■	■	function	Calculate hash of a file for integrity verification.
■	■	function	Create academic profile data for ORCID, ResearchGate, etc.
■	■	function	Create a publication announcement for social media and blogs.

Module	Name	Kind	Summary
■	■	function	Create a publication package with all necessary files.
■	■	function	Create repository metadata for GitHub repository.
■	■	function	Create a submission checklist for academic conferences/journals.
■	■	function	Extract all citations from markdown files.
■	■	function	Extract publication metadata from markdown files.
■	■	function	Format authors for APA style.
■	■	function	Format authors for MLA style.
■	■	function	Generate APA citation format.
■	■	function	Generate BibTeX citation format.
■	■	function	Generate MLA citation format.
■	■	function	Generate markdown section with all citation formats.
■	■	function	Generate DOI badge markdown.
■	■	function	Generate publication metrics for reporting.
■	■	function	Generate a publication summary for repository README.
■	■	function	Validate DOI format and checksum.
■	■	function	Validate that the project is ready for publication.

Module	Name	Kind	Summary
■	■	class	Container for document quality metrics.
■	■	function	Analyze compliance with academic writing standards.
■	■	function	Analyze various document metrics for quality assessment.
■	■	function	Perform comprehensive quality analysis of a research document.
■	■	function	Analyze document formatting quality.
■	■	function	Analyze text readability using multiple metrics.
■	■	function	Analyze document structural integrity.
■	■	function	Calculate overall quality score from individual metrics.
■	■	function	Check document accessibility features.
■	■	function	Count syllables in text using a simple heuristic.
■	■	function	Count syllables in a single word.
■	■	function	Extract detailed text information from PDF for quality analysis.
■	■	function	Generate a human-readable quality report.
■	■	function	Validate that a research document contains all expected sections.
■	■	class	Container for reproducibility analysis results.

Module	Name	Kind	Summary
■	■	function	Calculate hash of all files in a directory.
■	■	function	Calculate hash of a file for integrity verification.
■	■	function	Capture dependency information for reproducibility.
■	■	function	Capture the current environment state for reproducibility.
■	■	function	Compare two version snapshots for changes.
■	■	function	Create environment configuration for reproducible builds.
■	■	function	Create a template for reproducible research scripts.
■	■	function	Create a version snapshot of the current build for future comparison.
■	■	function	Generate a comprehensive build manifest for reproducibility.
■	■	function	Generate comprehensive reproducibility report.
■	■	function	Load reproducibility report from file.
■	■	function	Save build manifest to file.
■	■	function	Save reproducibility report to file.
■	■	function	Validate that experiment results are reproducible within tolerance.
■	■	function	Verify build integrity against a saved manifest.

Module	Name	Kind	Summary
■	■	function	Verify reproducibility by comparing current and previous reports.
■	■	class	Container for benchmark results.
■	■	class	Container for numerical stability test results.
■	■	function	Benchmark function performance across multiple inputs.
■	■	function	Check numerical stability of a function across a range of inputs.
■	■	function	Check function compliance with research software standards.
■	■	function	Create a template for a new scientific module.
■	■	function	Create a comprehensive test suite for a scientific module.
■	■	function	Create a template for scientific research workflows.
■	■	function	Generate comprehensive API documentation for a scientific module.
■	■	function	Generate a performance analysis report.
■	■	function	Generate scientific documentation for a function.
■	■	function	Validate that a module follows scientific computing best practices.
■	■	function	Validate scientific implementation against known test cases.