

## ML Flow Default Readability Metrics:

`ari_grade_level()`:

- Estimates the grade level needed to understand the text.
- Target: Lower values (e.g.  $\leq 8$ ) are preferred for general readability, but target mostly dependent on readability of input text.

`flesch_kincaid_grade_level()`:

- Estimates the grade level needed to understand the text.
- Target: Lower values (e.g.  $\leq 8$ ) are preferred for general readability, but target mostly dependent on readability of input text.

## ML Flow Default Accuracy Metrics

`exact_match()`

- Measures how often the corrected output exactly matches the gold standard.
- Target: Values close to 1.0 (0.9+).

`rouge1()`

- Measures unigram (word-level) overlap between prediction and target.
- Target: Values close to 1.0 (0.9+).

`rougeL()`

- Measures the longest common subsequence between prediction and target.
- Values close to 1.0 (0.9+).

## Custom Accuracy Metrics

`semantic_similarity_metric`

- Measures meaning similarity using TF-IDF and cosine similarity.
- Target: Values close to 1.0 (0.9+). Indicates perfect semantic alignment with gold standard text.

## Custom Grammar and Correction Metrics

`grammar_error_count_metric`

- Average number of grammar errors in model output.
- Target: 0 – no grammar mistakes.

#### grammar\_error\_rate\_metric

- Grammar errors per word – normalizes error count by output length.
- Target: 0 – no errors per word.

#### grammar\_improvement\_metric

- Measures reduction in errors from input to output (positive = improved).
- Target: Higher positive values – model is fixing more than it breaks

#### grammar\_score\_metric

- Heuristic grammar score out of 100; penalizes errors.
- Target: 100 – no errors detected.

### Custom Style and ClarityMetrics

#### readability\_improvement\_metric

- Measures improvement in sentence simplicity and structure.
- Target: positive value – model makes text more readable.

### Custom GPT-Based Judgment

#### llm\_judge\_metric

- LLM assigns a score from 0-10 based on correction quality (fixes, style, meaning).
- Target: 10 – perfect correction with no issues.