

RAG Evaluation Results

Relevant Documents (4 total)

- 1. Paris is the capital of France.
- 2. France is located in Europe.
- 3. The Eiffel Tower is in Paris.
- 4. French is the official language of France.

Retrieved Documents (Top-4)

#	Document	Relevant?
1	France is located in Europe.	✓ Yes
2	French is the official language of France.	✓ Yes
3	Berlin is the capital of Germany.	✗ No
4	Rome is the capital of Italy.	✗ No

Relevant documents retrieved: 2 out of 4 (items 1 and 2)

Metrics Computation

Recall@4

$$\text{Recall@4} = \frac{\text{Relevant Retrieved}}{\text{Total Relevant}} = \frac{2}{4} = 0.5$$

Precision@4

$$\text{Precision@4} = \frac{\text{Relevant Retrieved}}{\text{Total Retrieved}} = \frac{2}{4} = 0.5$$

F1@4

$$F1@4 = 2 \times \frac{\text{Precision} \times \text{Recall}}{\text{Precision} + \text{Recall}} = 2 \times \frac{0.5 \times 0.5}{0.5 + 0.5} = 2 \times \frac{0.25}{1.0} = 0.5$$

Final Results

Metric	Value
Recall@4	0.5
Precision@4	0.5
F1@4	0.5