

How to Run the Application??

Activate the Virtual Environment:

- `venv\Scripts\activate`

Run the Application:

- `streamlit run app.py`


Enter a Query:

- Input a query in the text box (e.g., "Test for mid-level engineers with coding skills").

View Recommendations:

- The system displays the top recommendations with details like name, description, test type, job levels, duration, and a link to the assessment.

Export Recommendations:

- Click the " Export to PDF" button to download the recommendations as a PDF.

How to Evaluate the System

Run the Evaluation Script:

- `streamlit run app_test.py`

Enter a Query:

- Provide a query in the input box such as *Test for front-end developers with JavaScript skills*

View Evaluation Metrics:

- The system calculates and displays:
- Precision@K: Proportion of relevant recommendations in the top K.
- Recall@K: Proportion of relevant documents retrieved in the top K.

Interpret Metrics:

- Higher Precision@K and Recall@K indicate better performance.

Purpose of app_test.py

- Include the logic for evaluating the recommendation system.
- Display the evaluation metrics (Precision@K and Recall@K) for each query.
- Help analyze the system's performance and identify areas for improvement.

Output -

SHL Assessment Recommendation Engine

Enter your query (e.g., "Test for mid-level engineers with coding skills"):

"Assesses ability to interpret and analyze numerical data"

Recommendation 1: SHL Verify Interactive – Numerical Reasoning

Description: Assesses how the candidate comprehends numerical information in various formats.

Test Type: Ability & Aptitude, Simulations

Job Levels: Graduate, Manager, Mid-Professional, Professional Individual Contributor,

Duration: 20

Remote Testing: Yes

Adaptive/IRT: Yes

[View on SHL Site](#)

PDF EXPORT-

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Remote Testing: Yes

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URL:

<https://www.shl.com/solutions/products/product-catalog/view/shl-verify-interactive-numerical-reasoning/>

Recommendation 2: SHL Verify Interactive Numerical Calculation

Description: The Verify Interactive Numerical Calculation test measures a candidate's ability to work with numbers and use appropriate mathematics in different situations. The Numerical Ability test requires candidates to understand order of operations, perform numerical calculations, and identify errors in calculations. The Numerical Calculation test, though it is adaptive, is ideal for entry-level jobs that require completing simple numerical calculations quickly and accurately.

Test Type: Ability & Aptitude

Job Levels: Entry-Level,

Duration: 10

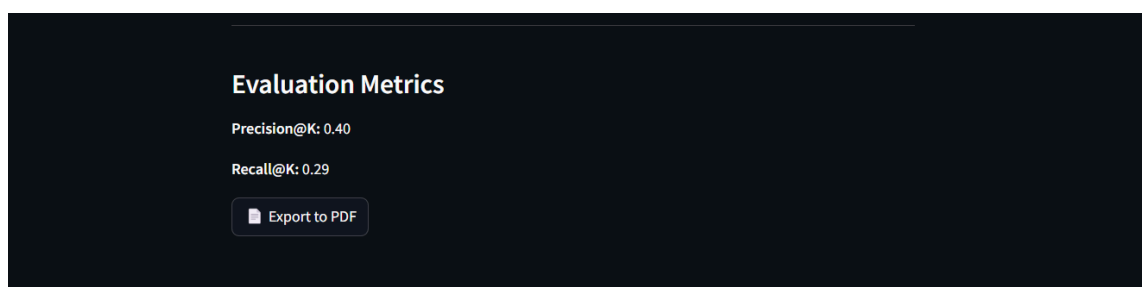
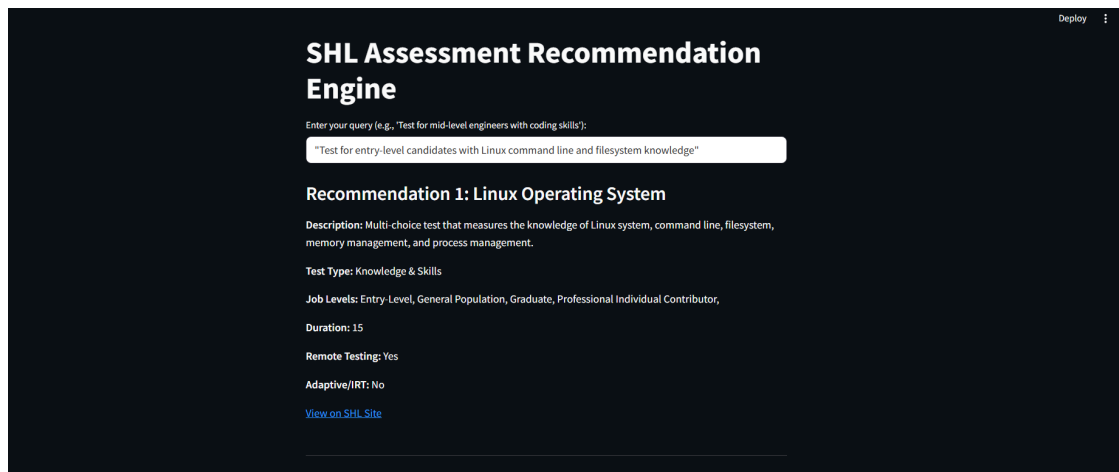
Remote Testing: Yes

Adaptive/IRT: Yes

URL: <https://www.shl.com/solutions/products/product-catalog/view/shl-verify-interactive-numerical-calculation/>

Output during model evaluation-

1. Input- "Test for entry-level candidates with Linux command line and filesystem knowledge"



Overall result-

you have calculated Precision@K and Recall@K for 7 queries, you can calculate the overall average Precision@K and Recall@K as follows:

5 queries had following metrics :

Precision@K = 0.4

Recall@K = 0.29

Rest 2 had following metrics:

Precision@K = 0.2

Recall@K = 0.14

$$\begin{aligned}\text{Weighted Precision@K} &= ((5 * 0.4) + (2 * 0.2)) / (5 + 2) \\ &= (2.0 + 0.4) / 7 \\ &= 2.4 / 7 \\ &= \mathbf{0.34}\end{aligned}$$

$$\begin{aligned}\text{Weighted Recall@K} &= ((5 * 0.29) + (2 * 0.14)) / (5 + 2) \\ &= (1.45 + 0.28) / 7 \\ &= 1.73 / 7 \\ &= \mathbf{0.25}\end{aligned}$$

→ **NOTE** - If Precision@K is 0.4 and Recall@K is 0.29 for a query, it means:

- **40% of the top K recommendations are relevant.**
- **29% of all relevant documents are retrieved in the top K recommendations.**