SHL Assessment Recommendation Engine - Solution Summary

Overview:

This project involves building a recommendation engine for SHL assessments based on job-related inputs like role, skills, industry, experience, and optional job descriptions. It supports both a Streamlit-based web app and a FastAPI backend.

Approach:

1. Data Preparation:
    - Used a sample product catalogue with 10 SHL assessments, each with a name and description.

2. Streamlit Web App:
    - UI to collect user inputs (job role, key skills, industry, experience).
    - Optional file upload to parse job descriptions (.txt, .pdf, .docx).
    - Combined all input into a single text for comparison.

3. Recommendation Logic:
    - Used TF-IDF vectorization and cosine similarity to match input with assessment descriptions.
    - Returned top 5 assessments sorted by relevance score.
    - Also added reasoning for recommendations based on keyword matches.

4. FastAPI Backend:
    - Created a REST endpoint `/recommend` to accept JSON input and return recommendations in

JSON format.

    - Hosted locally using Uvicorn for testing.

Tools Used:

- Python
- Streamlit (Frontend)
- FastAPI (Backend)

- Scikit-learn (TF-IDF and Cosine Similarity)
- Pandas, NumPy, FPDF

Deliverables:

- Streamlit app
- GitHub Repository
- This document summarizing the approach.