Sql code :

CREATE DATABASE job\_recommendation\_db;

USE job\_recommendation\_db;

-- Table to store job postings

CREATE TABLE job\_postings (

job\_id INT PRIMARY KEY AUTO\_INCREMENT,

job\_title VARCHAR(255),

company VARCHAR(255),

required\_skills VARCHAR(255),

location VARCHAR(255),

job\_type VARCHAR(50),

experience\_level VARCHAR(50)

);

-- Insert some sample data

INSERT INTO job\_postings (job\_title, company, required\_skills, location, job\_type, experience\_level)

VALUES

('Software Engineer', 'Tech Solutions Inc.', 'JavaScript, React, Node.js', 'San Francisco', 'Full-Time', 'Intermediate'),

('Backend Developer', 'Web Services Co.', 'Python, Django, REST APIs', 'Remote', 'Full-Time', 'Intermediate'),

('Data Scientist', 'Data Analytics Corp.', 'Python, Data Analysis, Machine Learning', 'Remote', 'Full-Time', 'Intermediate');

-- Table to store user profiles (if needed)

CREATE TABLE user\_profiles (

user\_id INT PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(255),

skills VARCHAR(255),

experience\_level VARCHAR(50),

desired\_roles VARCHAR(255),

locations VARCHAR(255),

job\_type VARCHAR(50)

);

Python Code:

import mysql.connector

import json

# Connect to the MySQL database

def connect\_db():

connection = mysql.connector.connect(

host="localhost",

user="your\_username",

password="your\_password",

database="job\_recommendation\_db"

)

return connection

# Function to recommend jobs based on the user profile

def recommend\_jobs(user\_profile):

connection = connect\_db()

cursor = connection.cursor(dictionary=True)

# Extract skills and preferences from the user profile

user\_skills = user\_profile['skills']

user\_experience\_level = user\_profile['experience\_level']

user\_preferences = user\_profile['preferences']

# Prepare SQL query to match jobs based on user's skills and experience

query = """

SELECT \* FROM job\_postings

WHERE experience\_level = %s

AND (location IN (%s, %s))

AND job\_type = %s

"""

cursor.execute(query, (

user\_experience\_level,

user\_preferences['locations'][0],

user\_preferences['locations'][1],

user\_preferences['job\_type']

))

# Fetch matched jobs

jobs = cursor.fetchall()

# Filter jobs based on skills

recommended\_jobs = []

for job in jobs:

job\_skills = job['required\_skills'].split(", ")

if set(user\_skills).intersection(set(job\_skills)):

recommended\_jobs.append(job)

connection.close()

# Return the results in JSON format

return json.dumps(recommended\_jobs, indent=4)

# Example user profile input

user\_profile = {

"name": "Jane Doe",

"skills": ["Python", "Django", "REST APIs"],

"experience\_level": "Intermediate",

"preferences": {

"desired\_roles": ["Backend Developer", "Software Engineer"],

"locations": ["Remote", "New York"],

"job\_type": "Full-Time"

}

}

# Get job recommendations

recommended\_jobs\_json = recommend\_jobs(user\_profile)

# Output the recommended jobs in JSON format

print(recommended\_jobs\_json)