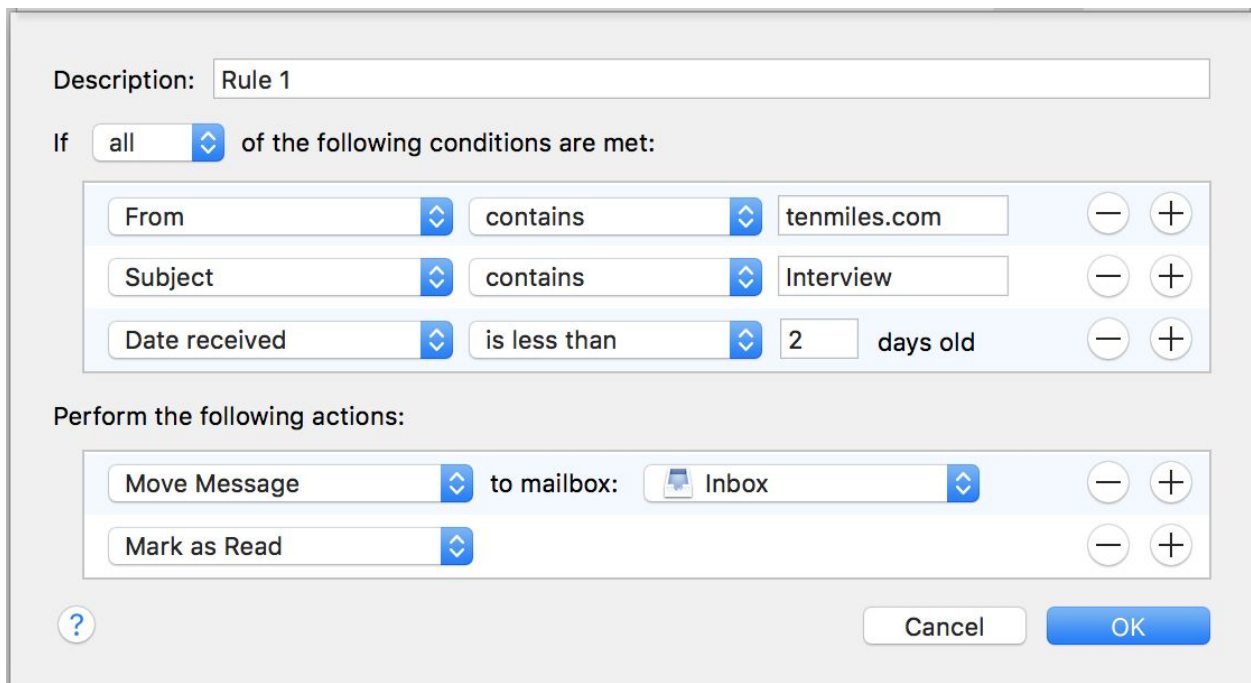**Problem Statement:**

Write a standalone Python script that integrates with GMail API and performs some rule based operations on emails.

Task Details & Breakdown:

- This project is meant to be a standalone Python script, not a web server project. Use any 3rd party libraries you need for the assignment
- Authenticate to Google's GMail API using OAuth (use Google's official Python client) and fetch a list of emails from your Inbox. Do **NOT** use IMAP.
- Come up a database table representation and store these emails there. Use any relational database for this (Postgres / MySQL / SQLite3).
- Now that you can fetch emails, write another script that can process emails (in Python code, not using Gmail's Search) based on some rules and take some actions on them **using the REST API**.
- These rules can be stored in a JSON file. The file should have a list of rules. Each rule has a set of conditions with an overall predicate and a set of actions.

Example: Taken from Apple Mail app.

Requirements for Rules:

Each rule has 3 properties:
- Field name (From / To / Subject / Date Received / etc)
- Predicate (contains / not equals / less than)
- Value

A collection of Rules has one of 2 predicates - "All" or "Any"
- "All" indicates that all the given conditions must match in order to run the actions.
- "Any" indicates that at least one of the conditions must match in order to run the conditions.

Implement the following set: (Similar to the screenshot)

Fields: From, Subject, Message, Received Date/Time
Predicate:
- For string type fields - Contains, Does not Contain, Equals, Does not equal
- For date type field (Received) - Less than / Greater than for days / months.
Actions:
- Mark as read / mark as unread
- Move Message

You should be able to make the rule in the screenshot work as well as any other combination of the same set of fields / predicates.