School of Computer Science and Artificial Intelligence

Lab Assignment -4.5

Program :B. Tech (CSE)

Specialization :AIML

Course Title : AI ASSISTED CODING

Course Code : 23CS002PC304

Semester : VI

Academic Session : 2025-2026

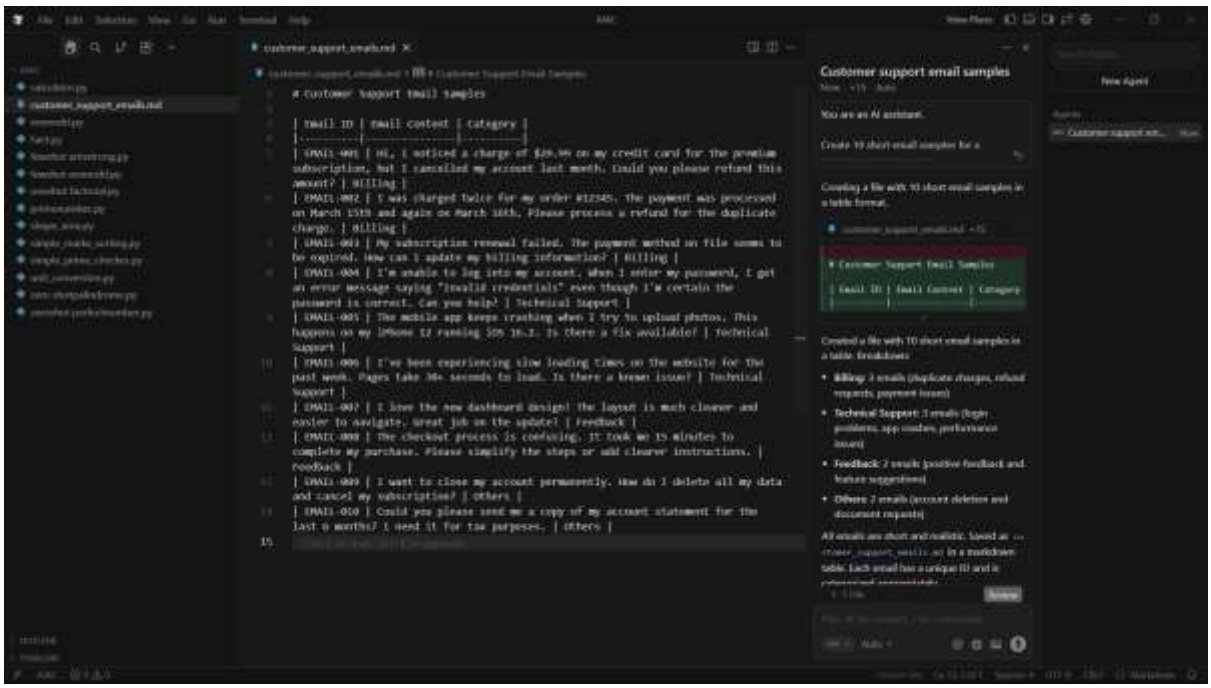
Name of Student : K. Shiva Charan

Enrollment No. : 2303A52160

Batch No. : 34

a. Prepare Sample Data:

• Create or collect 10 short email samples, each belonging to one of the 4 categories.



b. Zero-shot Prompting:

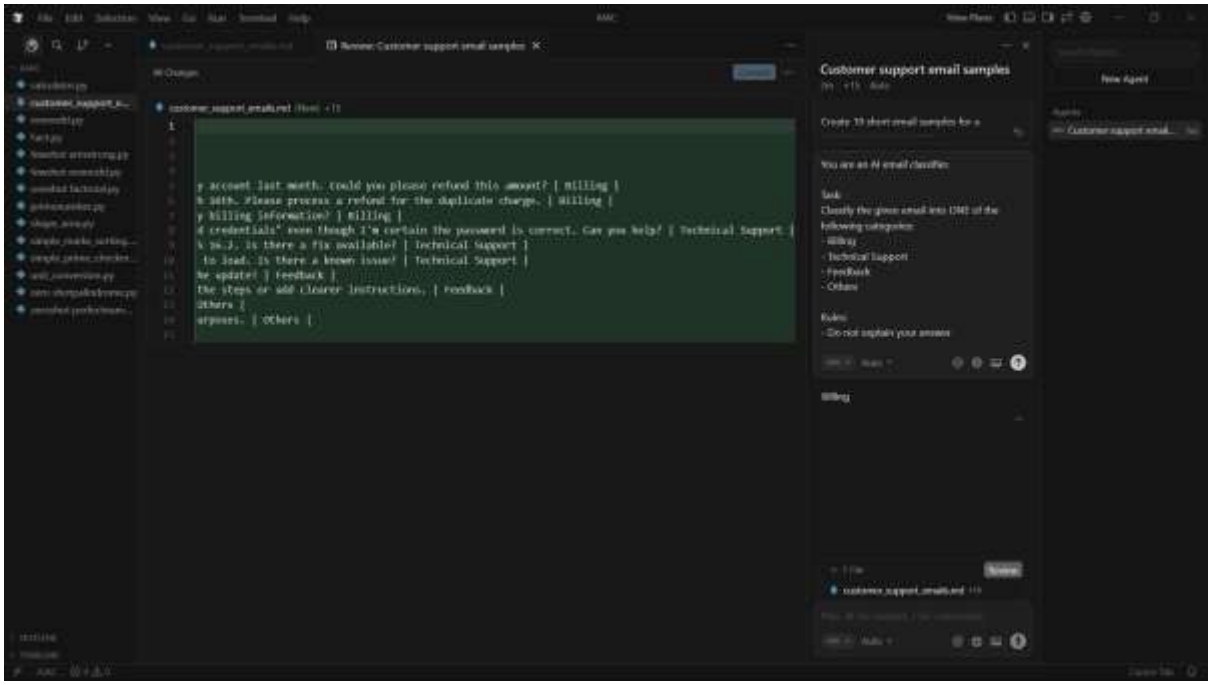
• Design a prompt that asks the LLM to classify a single email without providing any examples.

• Example prompt:

“Classify the following email into one of the following categories:

Billing, Technical Support, Feedback, Others. Email: ‘I have not

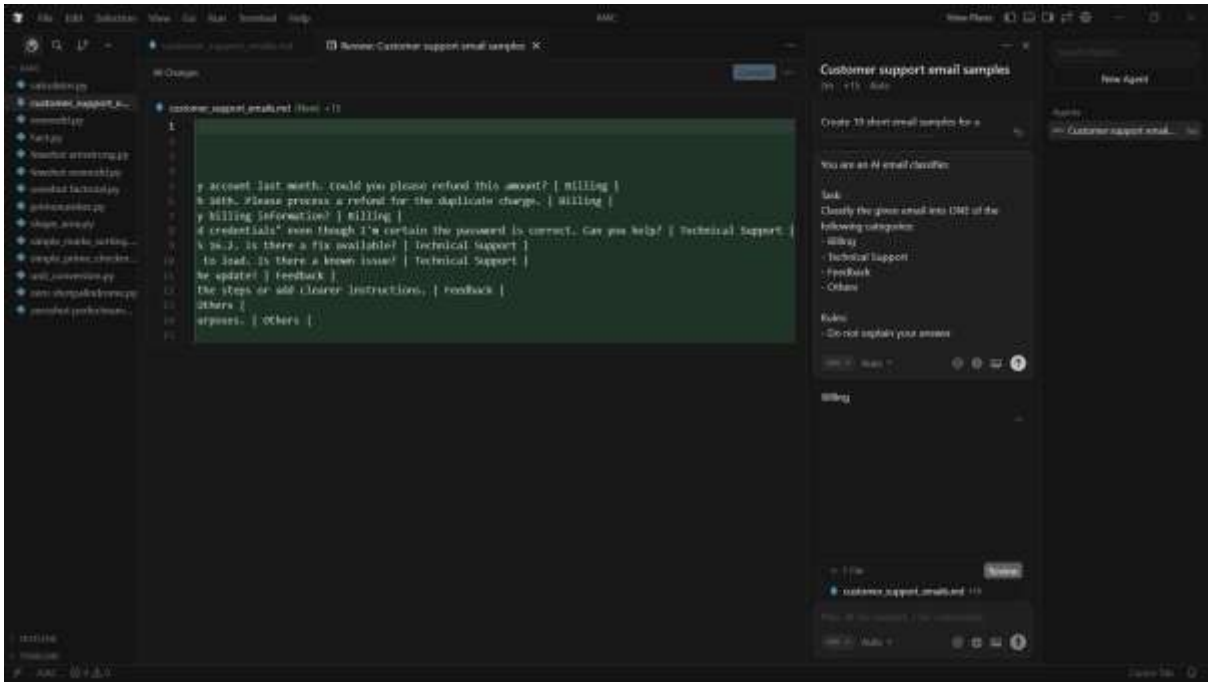
received my invoice for last month.’”



c. One-shot Prompting:

• Add one labeled example before asking the model to classify a

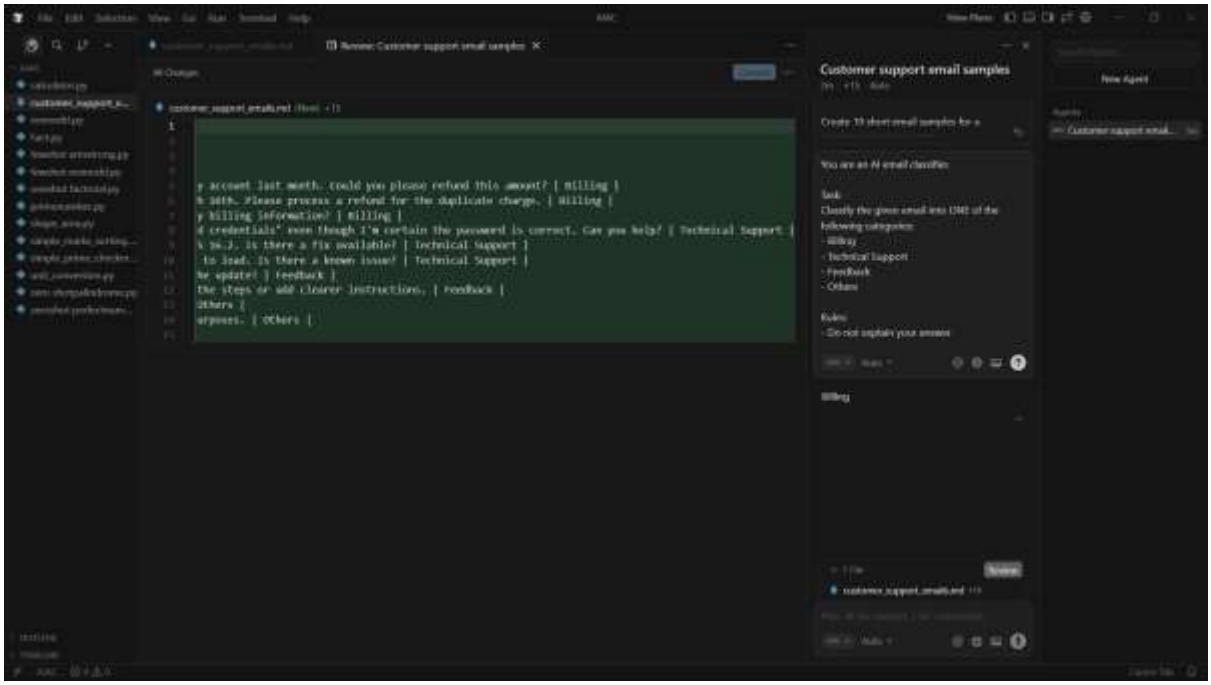
new email.



d. Few-shot Prompting:

• Use 3–5 labeled examples in your prompt before asking the

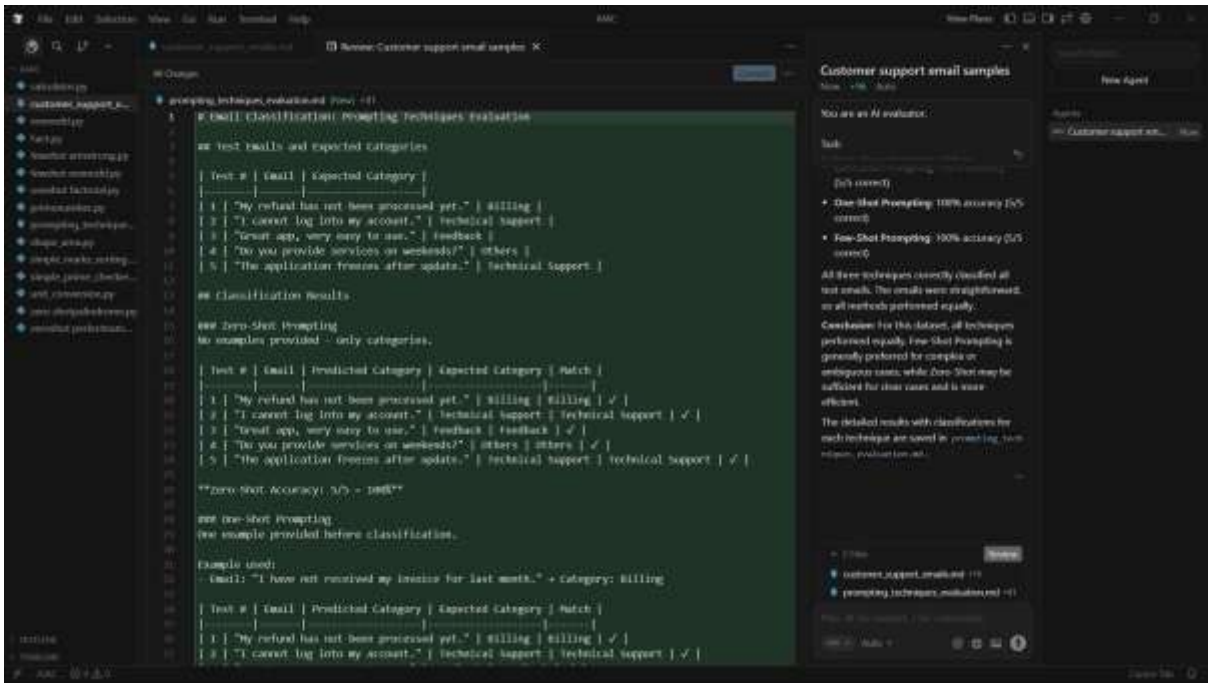
model to classify a new email.

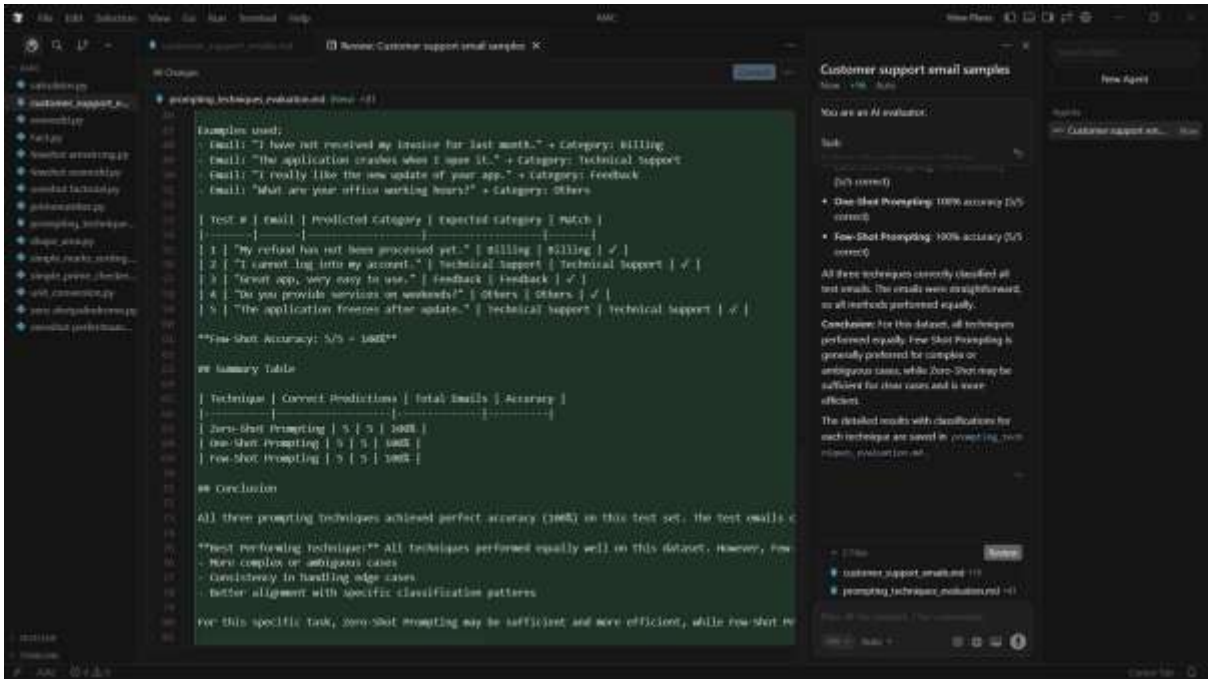


e. Evaluation:

• Run all three techniques on the same set of 5 test emails.

• Compare and document the accuracy and clarity of responses.





2. Travel Query Classification

Scenario:

A travel assistant must classify queries into Flight Booking, Hotel

Booking, Cancellation, or General Travel Info.

Tasks:

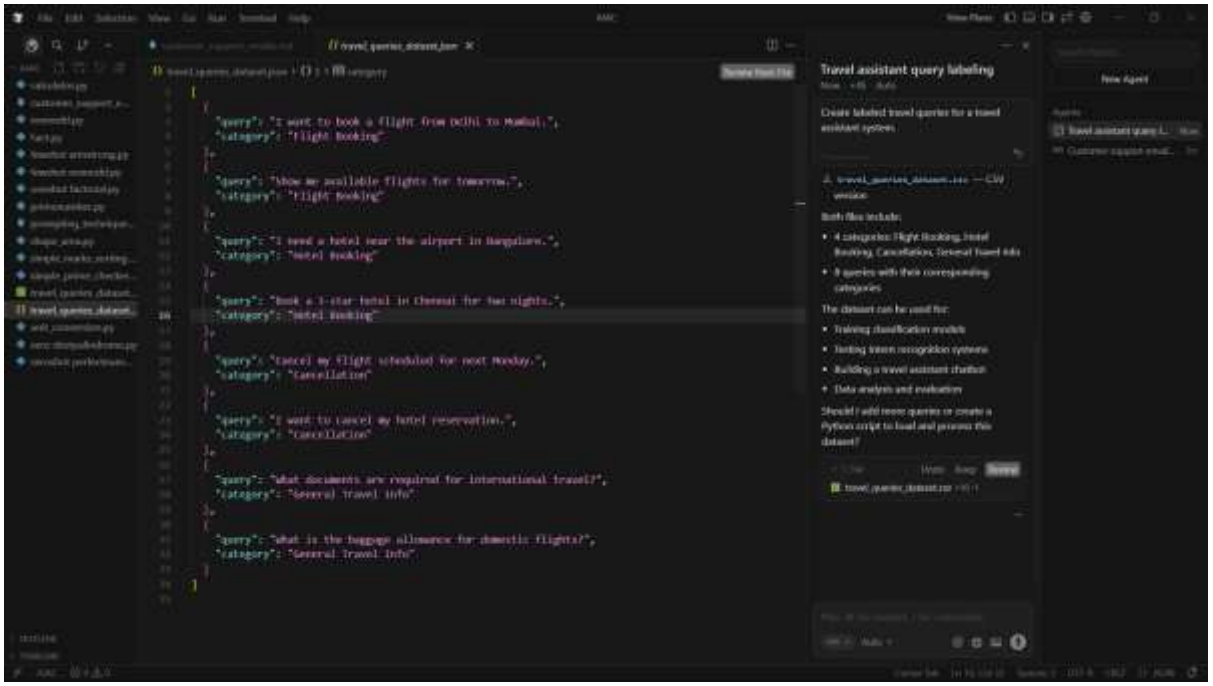
a. Prepare labeled travel queries.

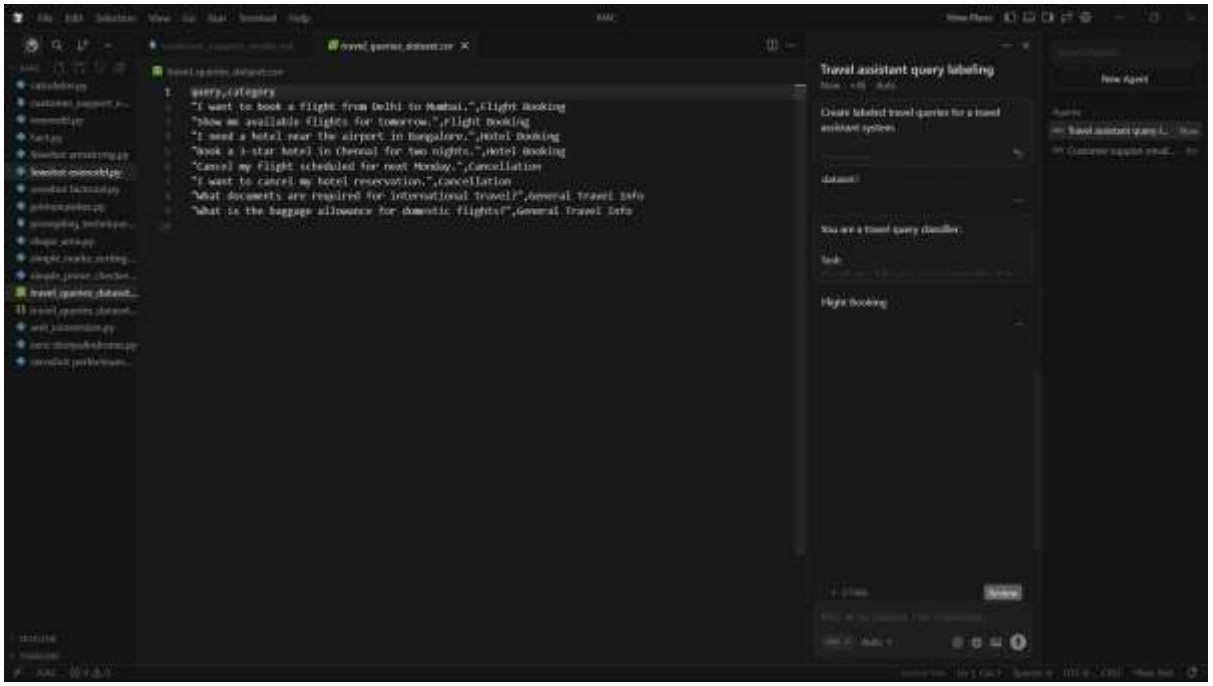
b. Apply Zero-shot prompting.

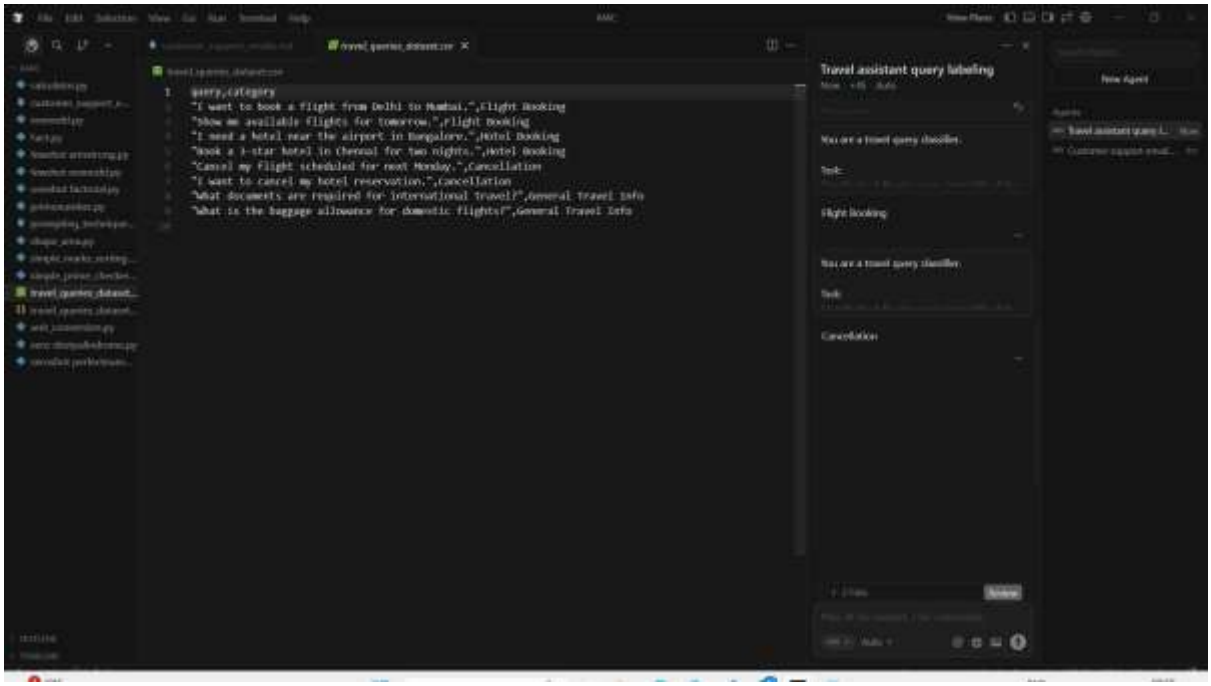
c. Apply One-shot prompting.

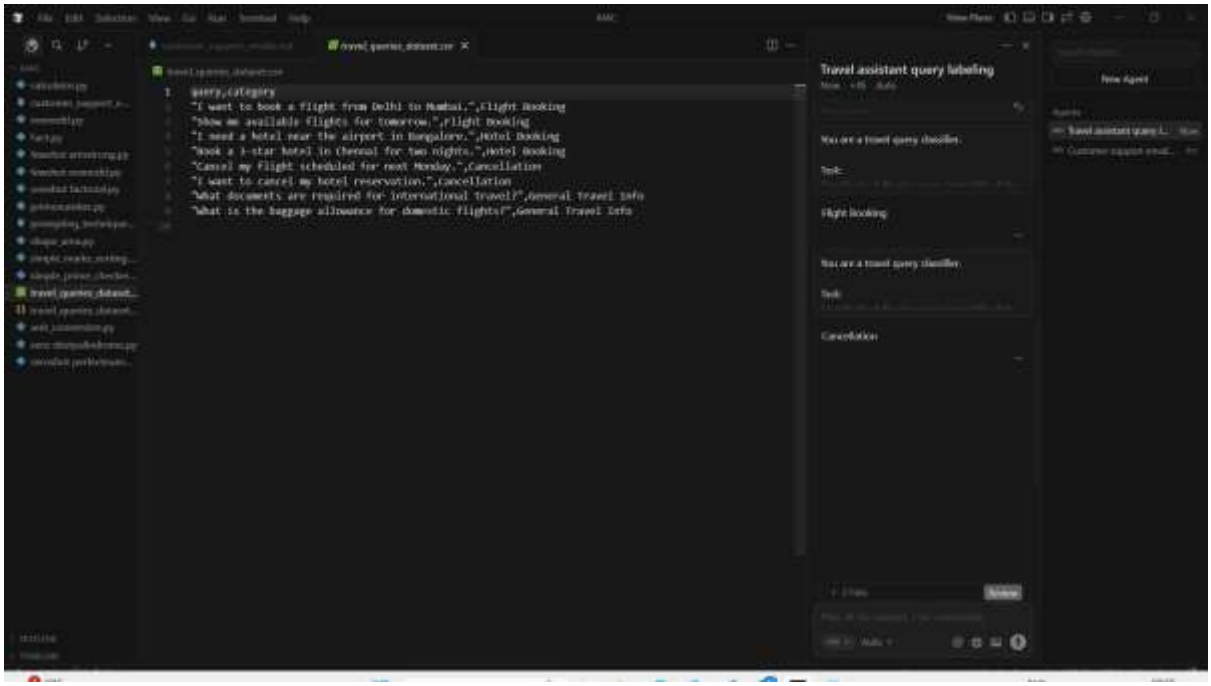
d. Apply Few-shot prompting.

e. Compare response consistency.


travel_queries_dataset.json
Travel assistant query labeling
Create labeled travel queries for a travel assistant system.
travel_queries_dataset.csv — CSV version
Both files include:
4 categories: Flight Booking, Hotel Booking, Cancellation, General Travel Info
9 queries with their corresponding categories
The dataset can be used for:
Training classification models
Testing intent recognition systems
Building a travel assistant chatbot
Data analysis and evaluation
Should I add more queries or create a Python script to load and process this dataset?
travel_queries_dataset.csv
New Agent


travel_queries_dataset.csv
Travel assistant query labeling
Create labeled travel queries for a travel assistant system.
dataset?
You are a travel query classifier.
Task:
Flight Booking
New Agent


query,category
"I want to book a flight from Delhi to Mumbai.",Flight Booking
"Show me available flights for tomorrow.",Flight Booking
"I need a hotel near the airport in Bangalore.",Hotel Booking
"Book a 3-star hotel in Chennai for two nights.",Hotel Booking
"Cancel my flight scheduled for next Monday.",Cancellation
"I want to cancel my hotel reservation.",Cancellation
"What documents are required for international travel?",General Travel Info
"What is the baggage allowance for domestic flights?",General Travel Info
Travel assistant query labeling
You are a travel query classifier.
Task:
Flight Booking
You are a travel query classifier.
Task:
Cancellation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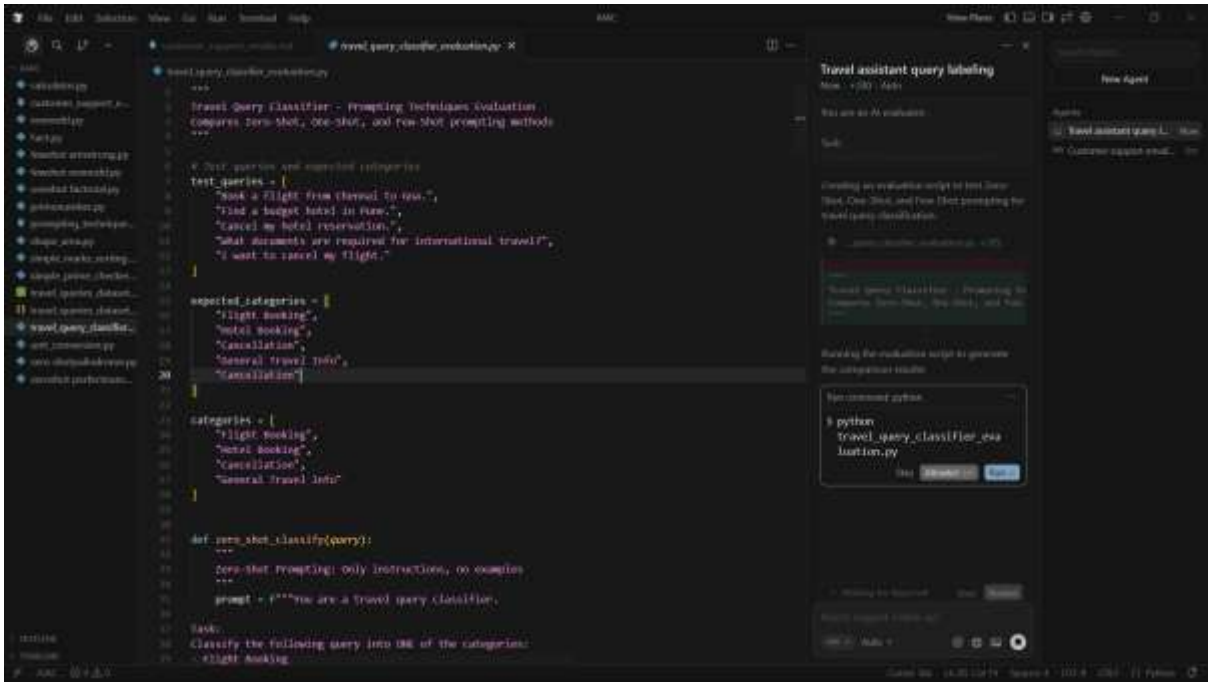
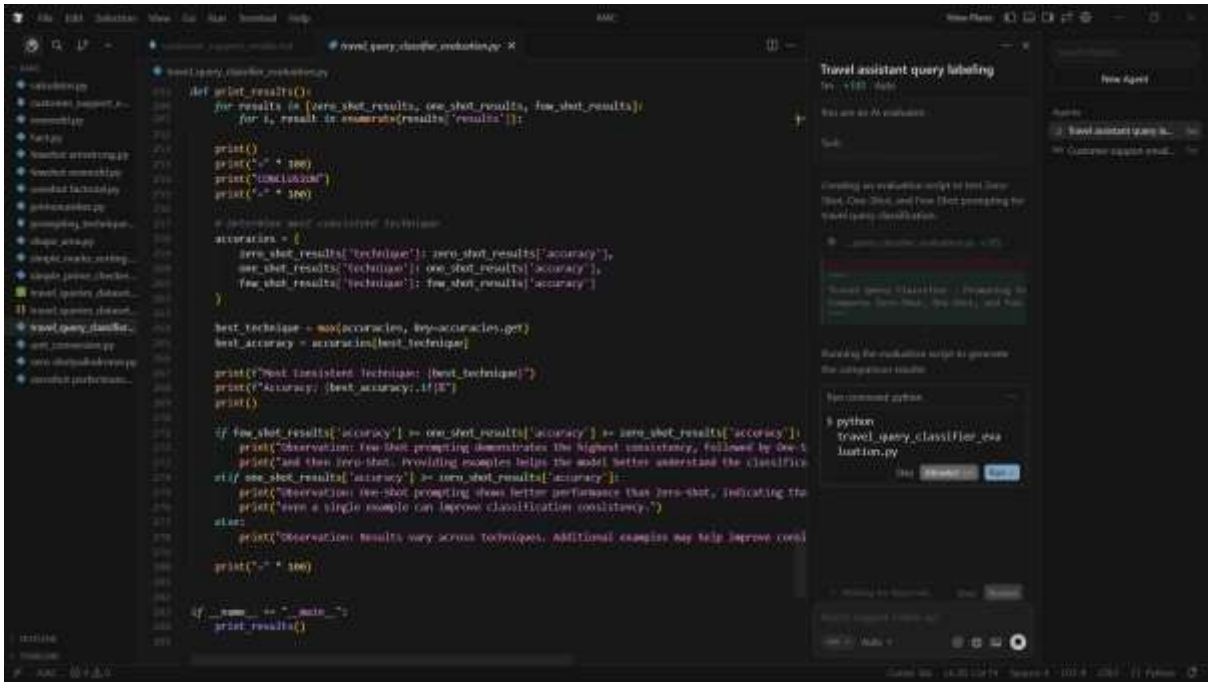
Travel assistant query labeling
You are a travel query classifier.
Task:
Flight Booking
You are a travel query classifier.
Task:
Cancellation





3. Programming Question Type Identification

Scenario:

A coding help chatbot must classify queries into Syntax Error, Logic

Error, Optimization, or Conceptual Question.

Tasks:

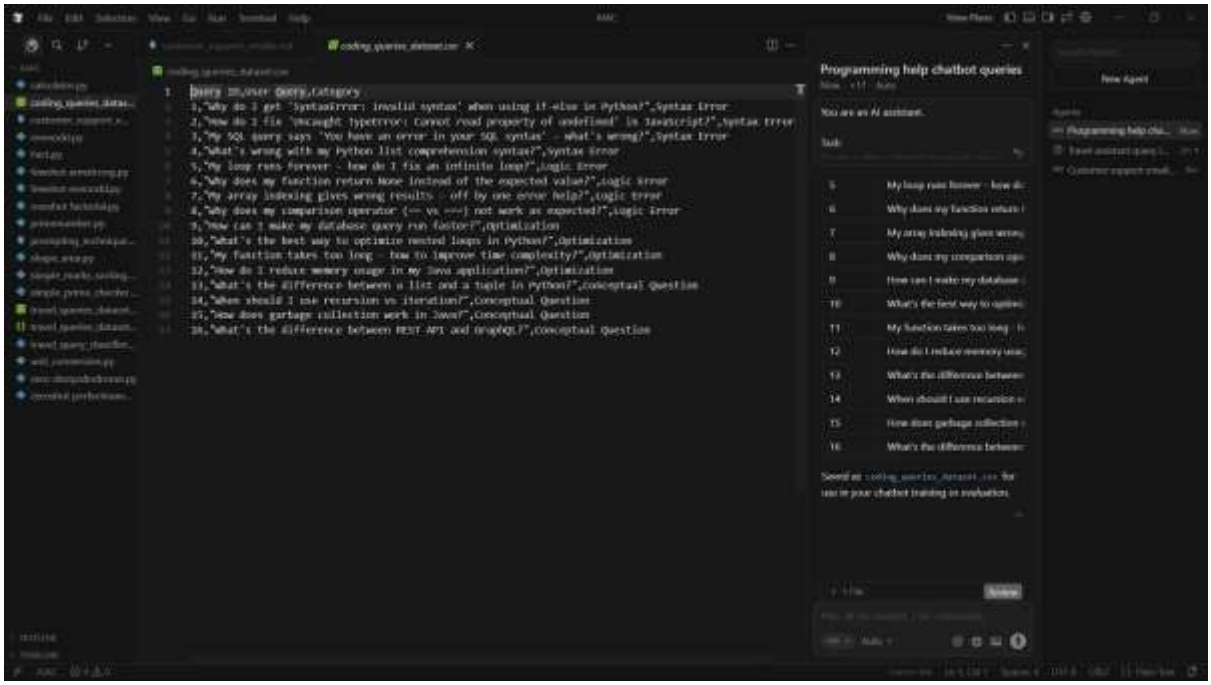
a. Prepare coding-related user queries.

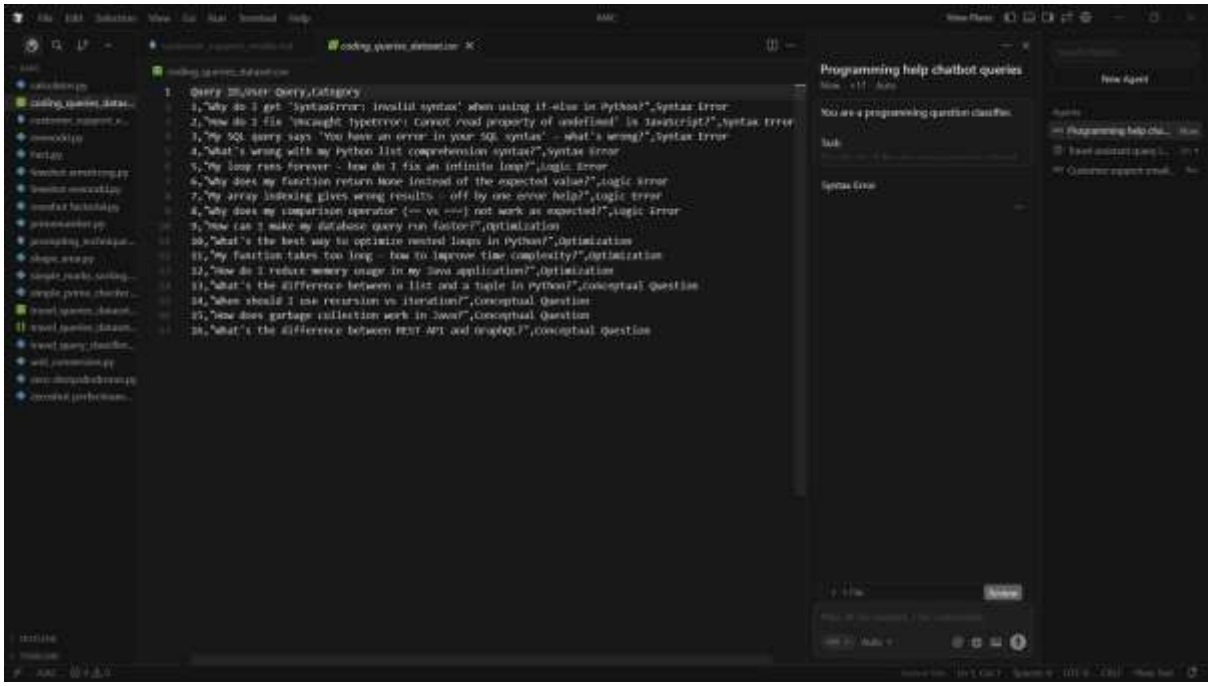
b. Perform Zero-shot classification.

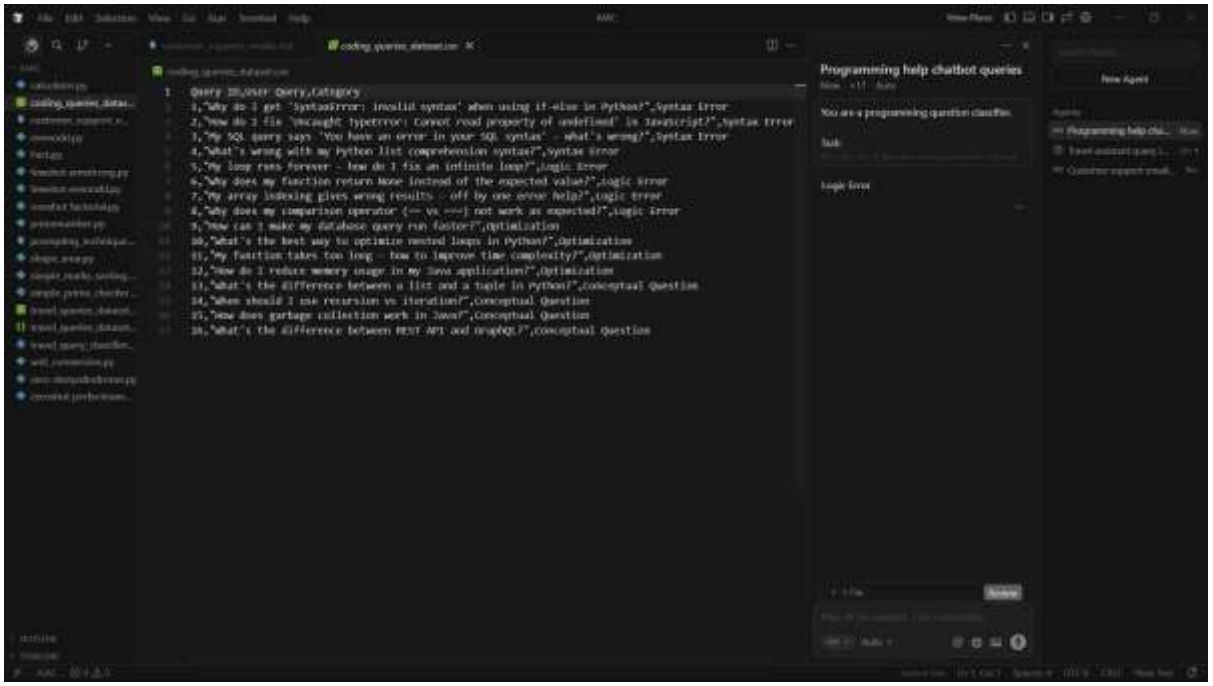
c. Perform One-shot classification.

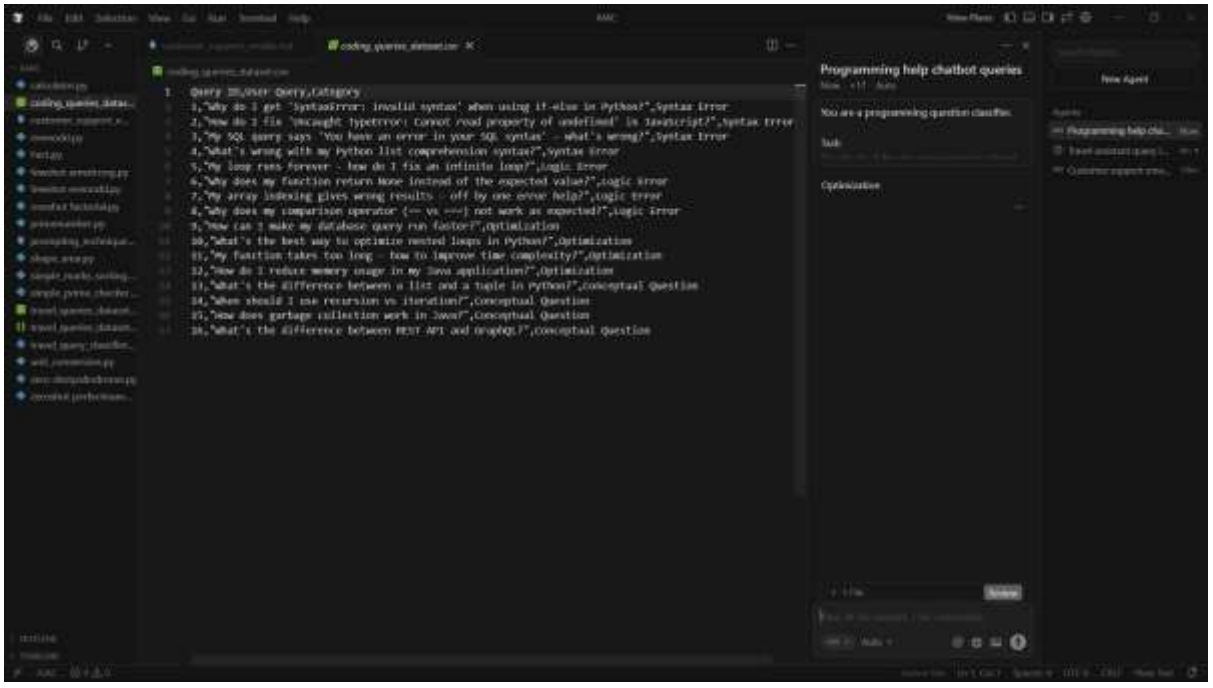
d. Perform Few-shot classification.

e. Analyze improvements in technical accuracy.






Query ID,User Query,Category
1,"Why do I get 'SyntaxError: invalid syntax' when using if-else in Python?",Syntax Error
2,"How do I fix 'Uncaught TypeError: Cannot read property of undefined' in JavaScript?",Syntax Error
3,"My SQL query says 'You have an error in your SQL syntax' - what's wrong?",Syntax Error
4,"What's wrong with my Python list comprehension syntax?",Syntax Error
5,"My loop runs forever - how do I fix an infinite loop?",Logic Error
6,"Why does my function return None instead of the expected value?",Logic Error
7,"My array indexing gives wrong results - off by one error help?",Logic Error
8,"Why does my comparison operator (== vs ===) not work as expected?",Logic Error
9,"How can I make my database query run faster?",Optimization
10,"What's the best way to optimize nested loops in Python?",Optimization
11,"My function takes too long - how to improve time complexity?",Optimization
12,"How do I reduce memory usage in my Java application?",Optimization
13,"What's the difference between a list and a tuple in Python?",Conceptual Question
14,"When should I use recursion vs iteration?",Conceptual Question
15,"How does garbage collection work in Java?",Conceptual Question
16,"What's the difference between REST API and GraphQL?",Conceptual Question
Programming help chatbot queries
You are a programming question classifier.
Task
Logic Error
New Agent


Query ID,User Query,Category
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2,"How do I fix 'Uncaught TypeError: Cannot read property of undefined' in JavaScript?",Syntax Error
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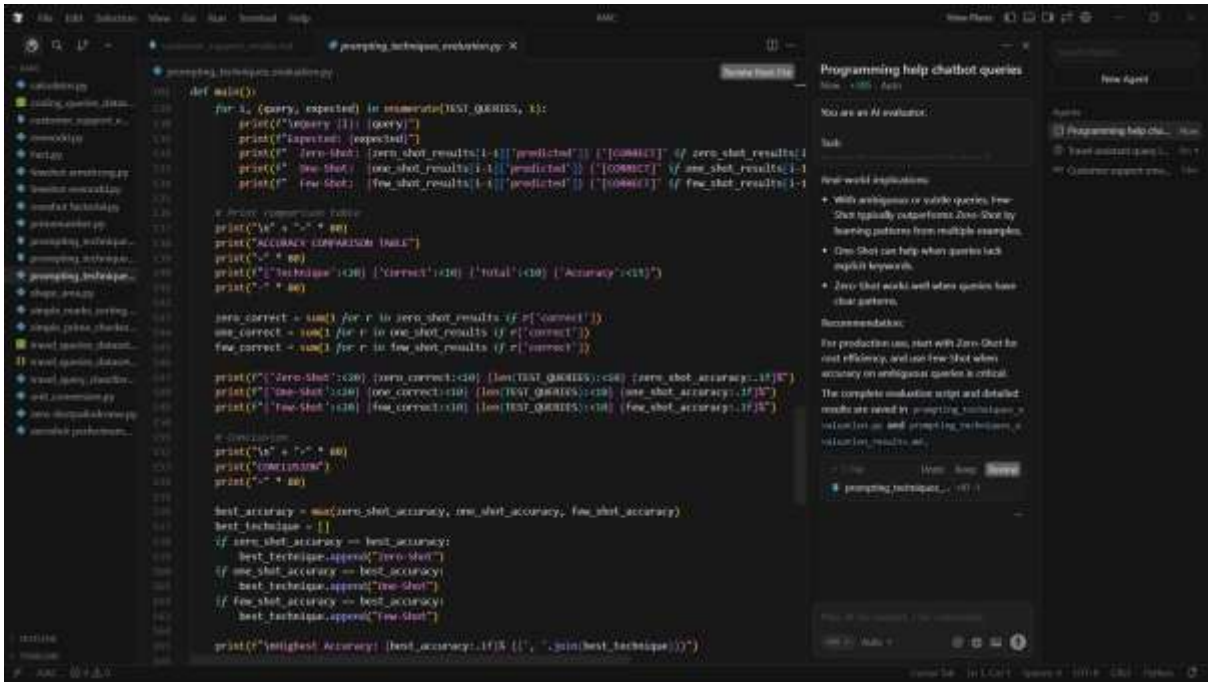
8,"Why does my comparison operator (== vs ===) not work as expected?",Logic Error
9,"How can I make my database query run faster?",Optimization
10,"What's the best way to optimize nested loops in Python?",Optimization
11,"My function takes too long - how to improve time complexity?",Optimization
12,"How do I reduce memory usage in my Java application?",Optimization
13,"What's the difference between a list and a tuple in Python?",Conceptual Question
14,"When should I use recursion vs iteration?",Conceptual Question
15,"How does garbage collection work in Java?",Conceptual Question
16,"What's the difference between REST API and GraphQL?",Conceptual Question
Programming help chatbot queries
You are a programming question classifier.
Task
Optimization
New Agent



Social Media Post Categorization

Scenario:

A social media analytics tool must classify posts into Promotion,

Complaint, Appreciation, or Inquiry.

Tasks:

1. Prepare sample social media posts.

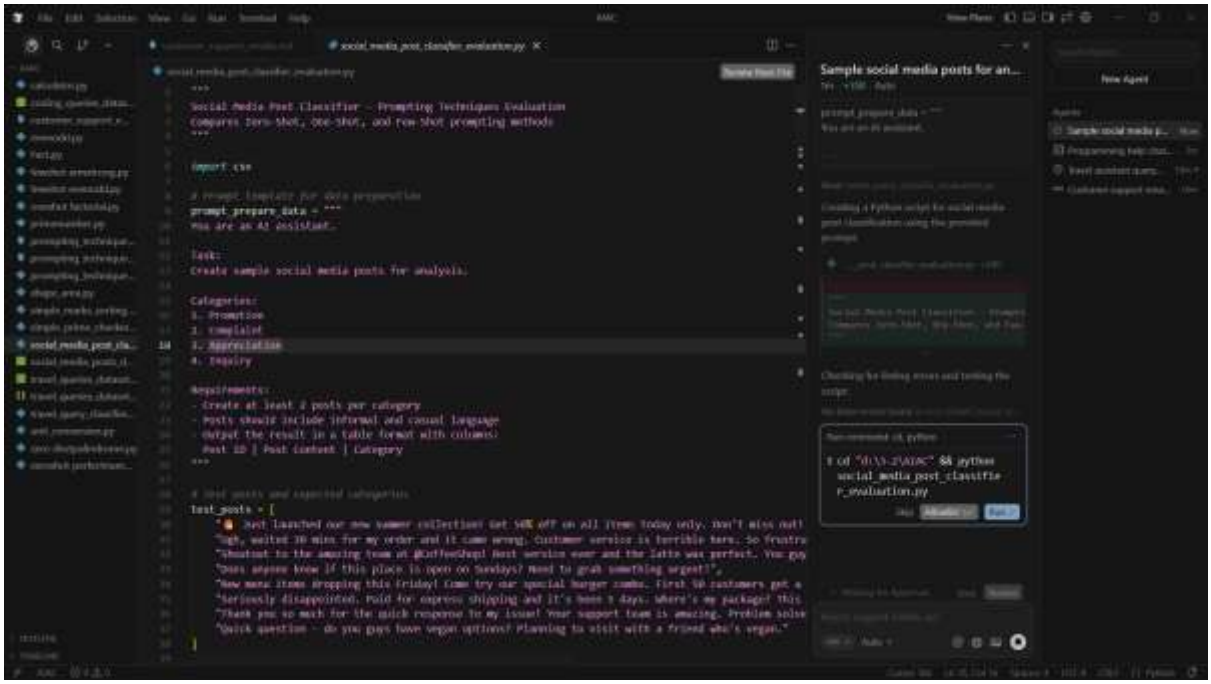
2. Use Zero-shot prompting.

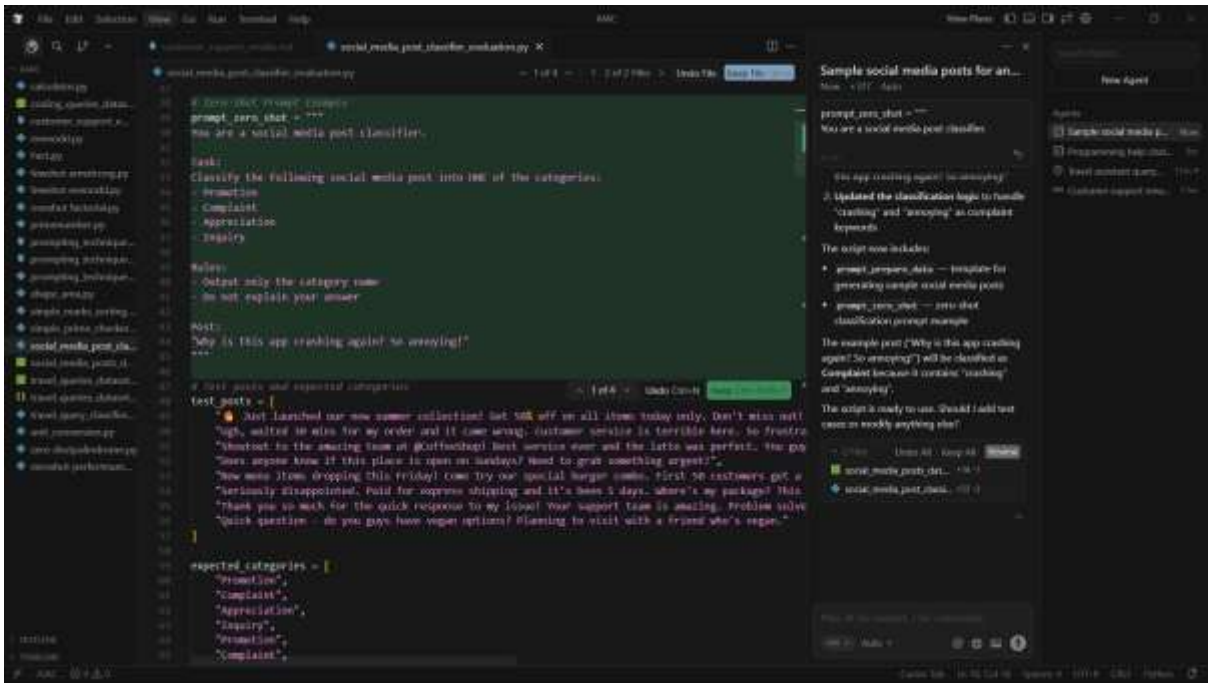
3. Use One-shot prompting.

4. Use Few-shot prompting.

5. Analyze informal language handling.

i want prompt for vsc code in python


social_media_post_classifier_evaluation.py
Sample social media posts for an...
New Agent
"""
Social Media Post Classifier - Prompting Techniques Evaluation
Compares zero-shot, one-shot, and few-shot prompting methods
"""
import csv
# Prompt template for data preparation
prompt_prepare_data = """
You are an AI assistant.
Task:
Create sample social media posts for analysis.
Categories:
1. Promotion
2. Complaint
3. Appreciation
4. Inquiry
Requirements:
- Create at least 2 posts per category
- Posts should include informal and casual language
- Output the result in a table format with columns:
Post ID | Post Content | Category
"""
# Test posts and expected categories
test_posts = [
"🔥 Just launched our new summer collection! Get 50% off on all items today only. Don't miss out!
"Ugh, waited 30 mins for my order and it came wrong. Customer service is terrible here. So frustra
"Shoutout to the amazing team at @coffeeshop! Best service ever and the latte was perfect. You guy
"Does anyone know if this place is open on Sundays? Need to grab something urgent!",
"New menu items dropping this Friday! Come try our special burger combo. First 50 customers get a
"Seriously disappointed. Paid for express shipping and it's been 5 days. Where's my package? This
"Thank you so much for the quick response to my issue! Your support team is amazing. Problem solve
"Quick question - do you guys have vegan options? Planning to visit with a friend who's vegan."
]
cd "d:\5-2\AIAC" && python social_media_post_classifier_evaluation.py


social_media_post_classifier_evaluation.py
Sample social media posts for an...
New Agent
# Zero-shot prompt example
prompt_zero_shot = """
You are a social media post classifier.
Task:
Classify the following social media post into ONE of the categories:
- Promotion
- Complaint
- Appreciation
- Inquiry
Rules:
- Output only the category name
- Do not explain your answer
Post:
"Why is this app crashing again! So annoying!"
"""
# Test posts and expected categories
test_posts = [
"🔥 Just launched our new summer collection! Get 50% off on all items today only. Don't miss out!
"Ugh, waited 30 mins for my order and it came wrong. Customer service is terrible here. So frustra
"Shoutout to the amazing team at @coffeeshop! Best service ever and the latte was perfect. You guy
"Does anyone know if this place is open on Sundays? Need to grab something urgent!",
"New menu items dropping this Friday! Come try our special burger combo. First 50 customers get a
"Seriously disappointed. Paid for express shipping and it's been 5 days. Where's my package? This
"Thank you so much for the quick response to my issue! Your support team is amazing. Problem solve
"Quick question - do you guys have vegan options? Planning to visit with a friend who's vegan."
]
expected_categories = [
"Promotion",
"Complaint",
"Appreciation",
"Inquiry",
"Promotion",
"Complaint",