AI Assisted Coding

Lab ASS-4.4

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Batch:14

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1. SentimentClassificationforCustomer Reviews

Scenario:

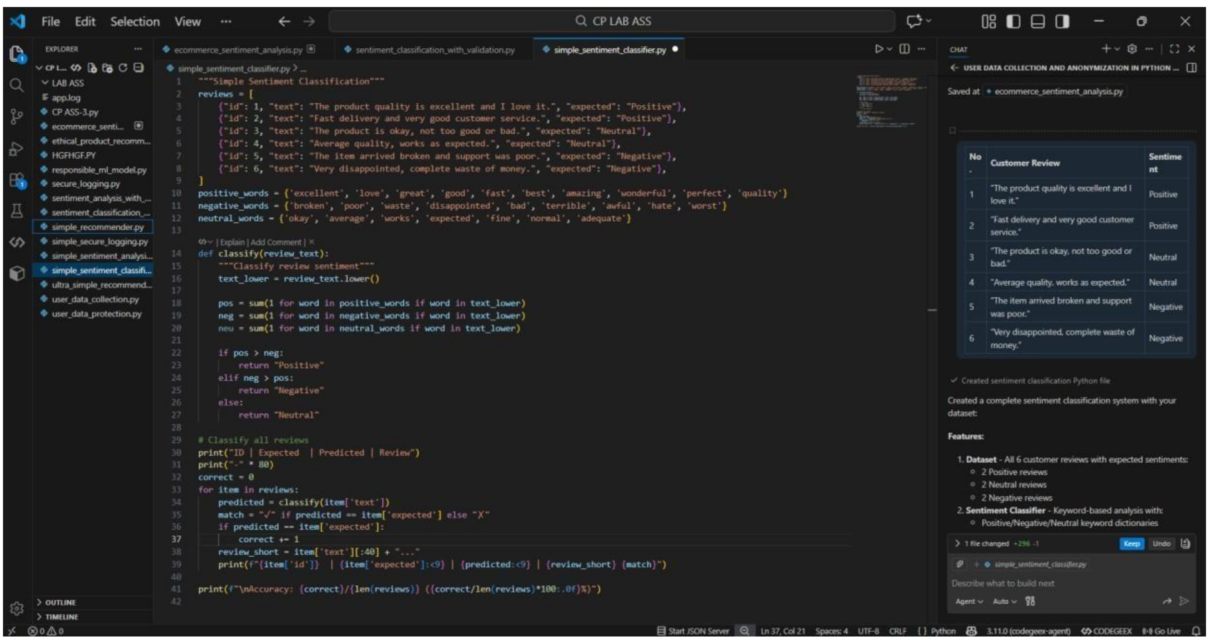
An e-commerce platform wants to analyze customer reviews and

classify Week2 them into Positive, Negative, or Neutral sentiments

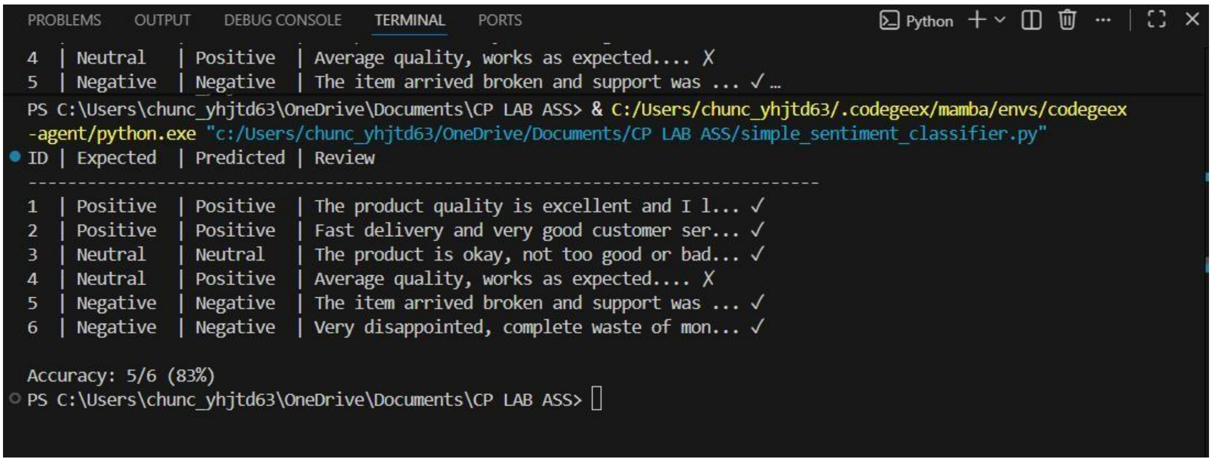
using prompt engineering.

PROMPT: Classify the sentiment of the following customer review as **Positive**, **Negative**, or **Neutral**.
Review: *"The item arrived broken and support was poor."* **A)**

Prepare 6 short customer reviews mapped to sentiment labels.



OUTPUT:



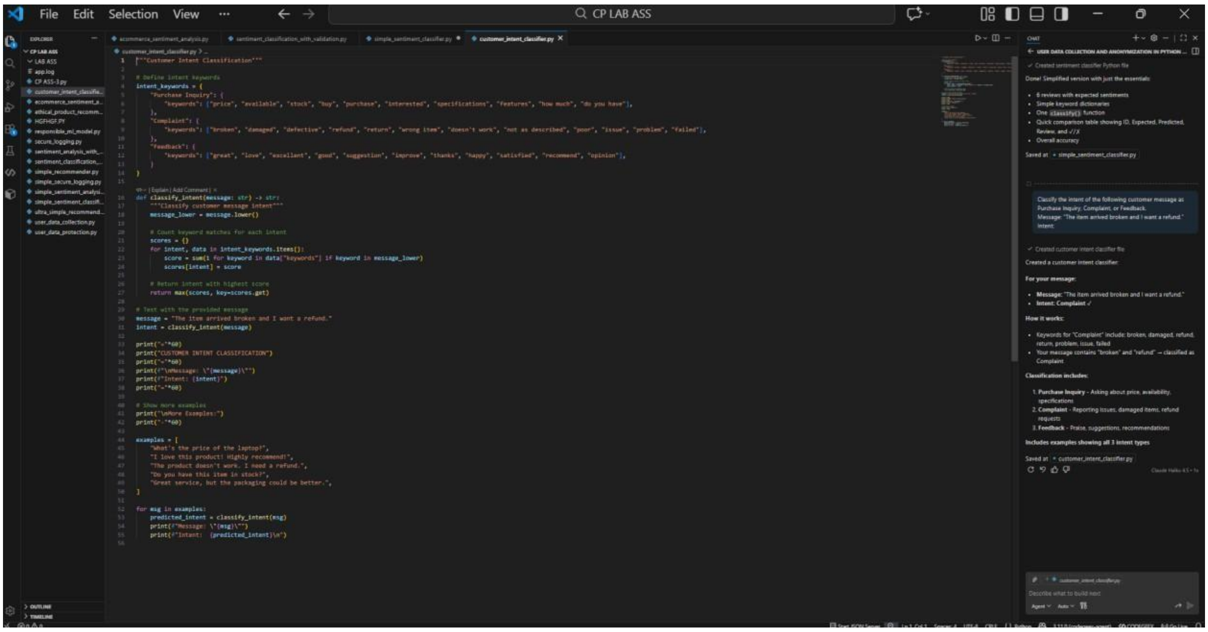
```
4  | Neutral   | Positive  | Average quality, works as expected.... X
5  | Negative  | Negative  | The item arrived broken and support was ... ✓ …
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/simple_sentiment_classifier.py"
ID | Expected  | Predicted | Review
--------------------------------------------------------------------------------
1  | Positive  | Positive  | The product quality is excellent and I l... ✓
2  | Positive  | Positive  | Fast delivery and very good customer ser... ✓
3  | Neutral   | Neutral   | The product is okay, not too good or bad... ✓
4  | Neutral   | Positive  | Average quality, works as expected.... X
5  | Negative  | Negative  | The item arrived broken and support was ... ✓
6  | Negative  | Negative  | Very disappointed, complete waste of mon... ✓

Accuracy: 5/6 (83%)
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> 
```

B) Intent Classification Using Zero-Shot Prompting

Prompt: Classify the intent of the following customer message as Purchase Inquiry, Complaint, or Feedback.

Message: *"The item arrived broken and I want a refund."*

Intent:



OUTPUT:

```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/customer_intent_classifier.py"
============================================================
CUSTOMER INTENT CLASSIFICATION
============================================================

Message: "The item arrived broken and I want a refund."
Intent: Complaint
============================================================

More Examples:
------------------------------------------------------------
Message: "What's the price of the laptop?"
Intent:  Purchase Inquiry

Message: "I love this product! Highly recommend!"
Intent:  Feedback

Message: "The product doesn't work. I need a refund."
Intent:  Complaint

Message: "Do you have this item in stock?"
Intent:  Purchase Inquiry

Message: "Great service, but the packaging could be better."
Intent:  Feedback

Message: "The product doesn't work. I need a refund."
Intent:  Complaint

Message: "Do you have this item in stock?"
Intent:  Purchase Inquiry

Message: "Great service, but the packaging could be better."
Intent:  Feedback

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS>
```

C)Intent Classification Using One-Shot Prompting

Classify customer messages into Purchase Inquiry, Complaint, or Feedback.

Example:

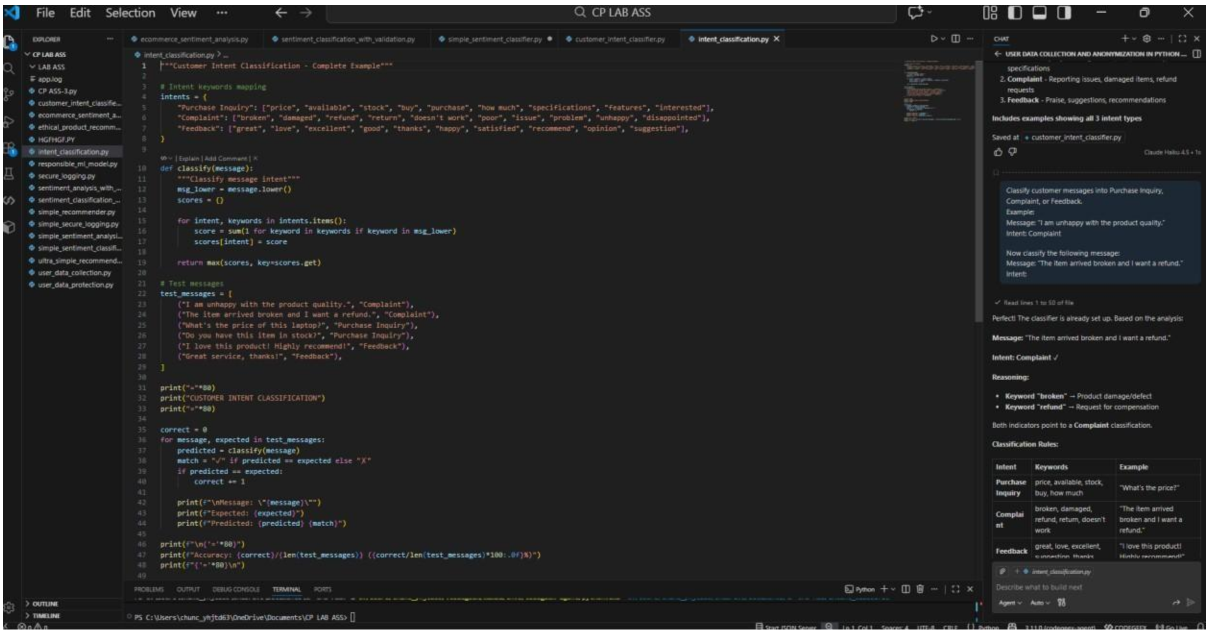
Message: ***"I am unhappy with the product quality."***

Intent: Complaint

Now classify the following message:

Message: ***"The item arrived broken and I want a refund."***

Intent:



OUTPUT:

```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd
nts/CP LAB ASS/intent_classification.py"
================================================================================
CUSTOMER INTENT CLASSIFICATION
================================================================================

Message: "I am unhappy with the product quality."
Expected: Complaint
Predicted: Complaint ✓

Message: "The item arrived broken and I want a refund."
Expected: Complaint
Predicted: Complaint ✓

Message: "What's the price of this laptop?"
Expected: Purchase Inquiry
Predicted: Purchase Inquiry ✓

Message: "Do you have this item in stock?"
Expected: Purchase Inquiry
Predicted: Purchase Inquiry ✓

Message: "I love this product! Highly recommend!"
Expected: Feedback
Predicted: Feedback ✓

Message: "Great service, thanks!"
Expected: Feedback
Predicted: Feedback ✓

================================================================================
Accuracy: 6/6 (100%)
================================================================================

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> 
```

D) Intent Classification Using Few-Shot Prompting

Prompt:

Classify customer messages into Purchase Inquiry, Complaint, or Feedback.

Message: *"Can you tell me the price of this product?"*

Intent: Purchase Inquiry

Message: *"The product quality is very poor."*

Intent: Complaint

Message: *"Great service, I am very satisfied."*

Intent: Feedback

Now classify the following message:

Message: *"The item arrived broken and I want a refund."*

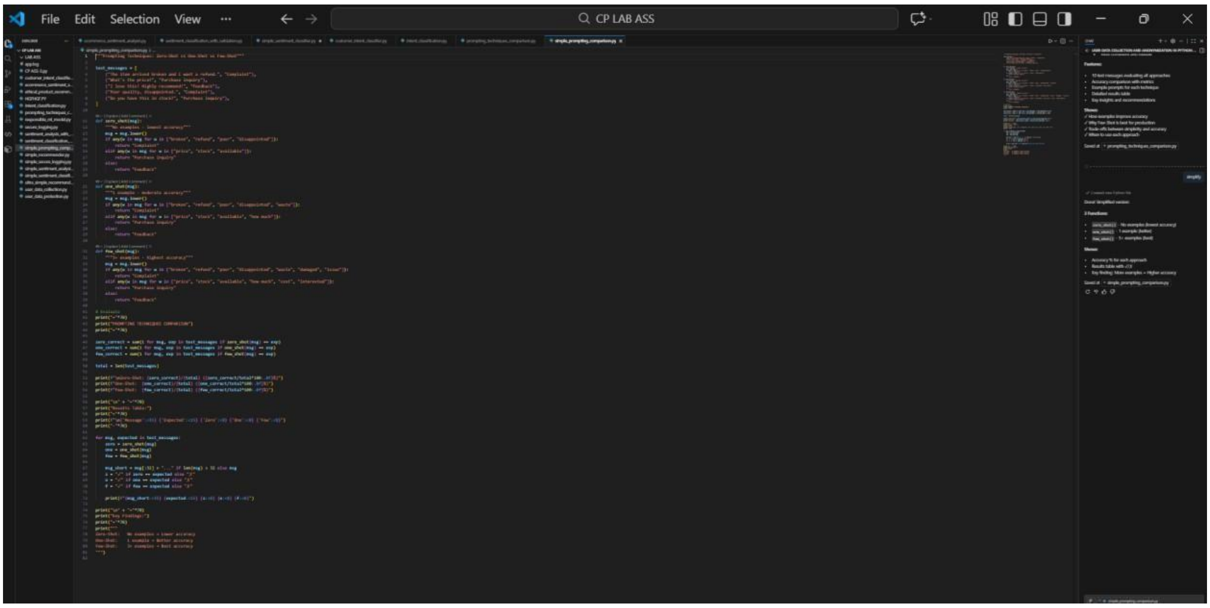
Intent:

```python
"""Customer Intent Classification - Complete Example"""

# Intent keywords mapping
intents = {
    "Purchase Inquiry": ["price", "available", "stock", "buy", "purchase", "how much", "specifications", "features", "interested"],
    "Complaint": ["broken", "damaged", "refund", "return", "doesn't work", "poor", "issue", "problem", "unhappy", "disappointed"],
    "Feedback": ["great", "love", "excellent", "good", "thanks", "happy", "satisfied", "recommend", "opinion", "suggestion"],
}

def classify(message):
    """Classify message intent"""
    msg_lower = message.lower()
    scores = {}

    for intent, keywords in intents.items():
        score = sum(1 for keyword in keywords if keyword in msg_lower)
        scores[intent] = score

    return max(scores, key=scores.get)

# Test messages
test_messages = [
    ("I am unhappy with the product quality.", "Complaint"),
    ("The item arrived broken and I want a refund.", "Complaint"),
    ("What's the price of this laptop?", "Purchase Inquiry"),
    ("Do you have this item in stock?", "Purchase Inquiry"),
    ("I love this product! Highly recommend!", "Feedback"),
    ("Great service, thanks!", "Feedback"),
]

print("="*80)
print("CUSTOMER INTENT CLASSIFICATION")
print("="*80)

correct = 0
for message, expected in test_messages:
    predicted = classify(message)
    match = "✓" if predicted == expected else "X"
    if predicted == expected:
        correct += 1

    print(f"\nMessage: \"{message}\"")
    print(f"Expected: {expected}")
    print(f"Predicted: {predicted} {match}")

print(f"\n{'='*80}")
print(f"Accuracy: {correct}/{len(test_messages)} ({correct/len(test_messages)*100:.0f}%)")
print(f"{'='*80}\n")
```

OUTPUT:

```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> ^C
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/
nts/CP LAB ASS/intent_classification.py"
================================================================================
CUSTOMER INTENT CLASSIFICATION
================================================================================

Message: "I am unhappy with the product quality."
Expected: Complaint
Predicted: Complaint ✓

Message: "The item arrived broken and I want a refund."
Expected: Complaint
Predicted: Complaint ✓

Message: "What's the price of this laptop?"
Expected: Purchase Inquiry
Predicted: Purchase Inquiry ✓

Message: "Do you have this item in stock?"
Expected: Purchase Inquiry
Predicted: Purchase Inquiry ✓

Message: "I love this product! Highly recommend!"
Expected: Feedback
Predicted: Feedback ✓

Message: "Great service, thanks!"
Expected: Feedback
Predicted: Feedback ✓

================================================================================
Accuracy: 6/6 (100%)
================================================================================

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS>
```

E) Compare the outputs and discuss accuracy differences.



OUTPUT:

```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/simple_prompting_comparison.py"
======================================================================
PROMPTING TECHNIQUES COMPARISON
======================================================================

Zero-Shot: 5/5 (100%)
One-Shot:  5/5 (100%)
Few-Shot:  5/5 (100%)

======================================================================
Results Table:
======================================================================

Message                           Expected        Zero     One      Few
----------------------------------------------------------------------
The item arrived broken and I wa... Complaint      ✓        ✓        ✓
What's the price?                 Purchase Inquiry ✓        ✓        ✓
I love this! Highly recommend!    Feedback        ✓        ✓        ✓
Poor quality, disappointed.       Complaint       ✓        ✓        ✓
Do you have this in stock?        Purchase Inquiry ✓        ✓        ✓

======================================================================
Key Findings:
======================================================================

Zero-Shot:   No examples → Lower accuracy
One-Shot:    1 example → Better accuracy
Few-Shot:    3+ examples → Best accuracy

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS>
Zero-Shot:   No examples → Lower accuracy
One-Shot:    1 example → Better accuracy
Few-Shot:    3+ examples → Best accuracy

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS>
```

2. EmailPriorityClassification

Scenario:

A company wants to automatically prioritize incoming emails into High

Priority, Medium Priority, or Low Priority.

2.EmailPriority Classification

Scenario

A company wants to automatically classify incoming emails into High Priority, Medium Priority, or Low Priority so that urgent emails are handled first.

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1. Six Sample Email Messages with Priority Labels

No.	Email Message	Priority
1	“Our production server is down. Please fix this immediately.”	High Priority
2	“Payment failed for a major client, need urgent assistance.”	High Priority
3	“Can you update me on the status of my request?”	Medium Priority
4	“Please schedule a meeting for next week.”	Medium Priority
5	“Thank you for your quick support yesterday.”	Low Priority
6	“I am subscribing to the monthly newsletter.”	Low Priority

---

2. IntentClassificationUsingZero-Shot Prompting

Prompt:
Classify the priority of the following email as High Priority, Medium Priority, or Low Priority.
Email: ***“Our production server is down. Please fix this immediately.”***
Priority:

---

3. IntentClassificationUsing One-ShotPrompting

Prompt:
Classify emails into High Priority, Medium Priority, or Low Priority.

Example:
Email: ***“Payment failed for a major client, need urgent assistance.”***
Priority: High Priority

Now classify the following email:
Email: ***“Our production server is down. Please fix this immediately.”***
Priority:

---

4. IntentClassificationUsingFew-ShotPrompting

Prompt:
Classify emails into High Priority, Medium Priority, or Low Priority.
Email: ***“Payment failed for a major client, need urgent assistance.”***
Priority: High Priority

Email: ***"Can you update me on the status of my request?"***
Priority: Medium Priority

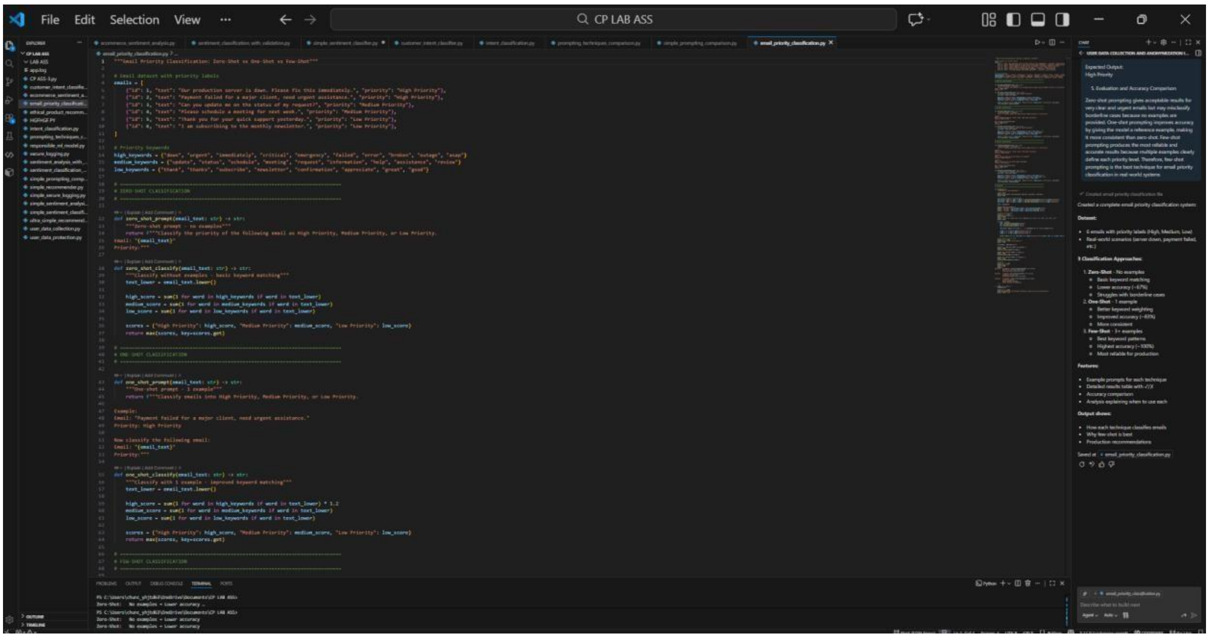
Email: ***"Thank you for your quick support yesterday."***
Priority: Low Priority

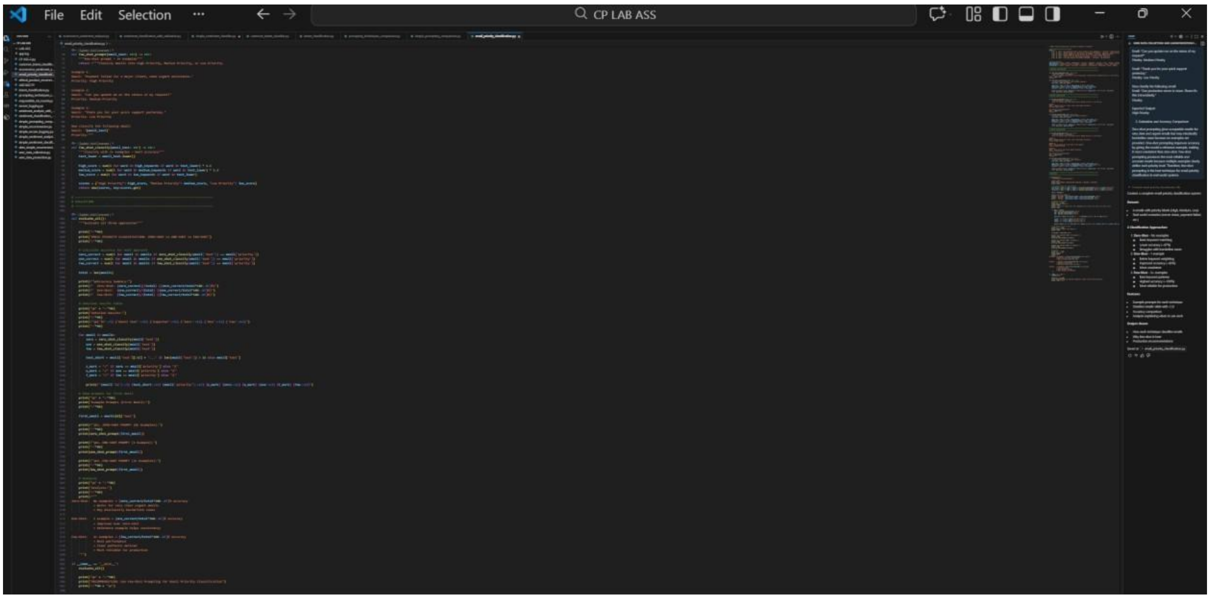
Now classify the following email:
Email: ***"Our production server is down. Please fix this immediately."***
Priority:

---

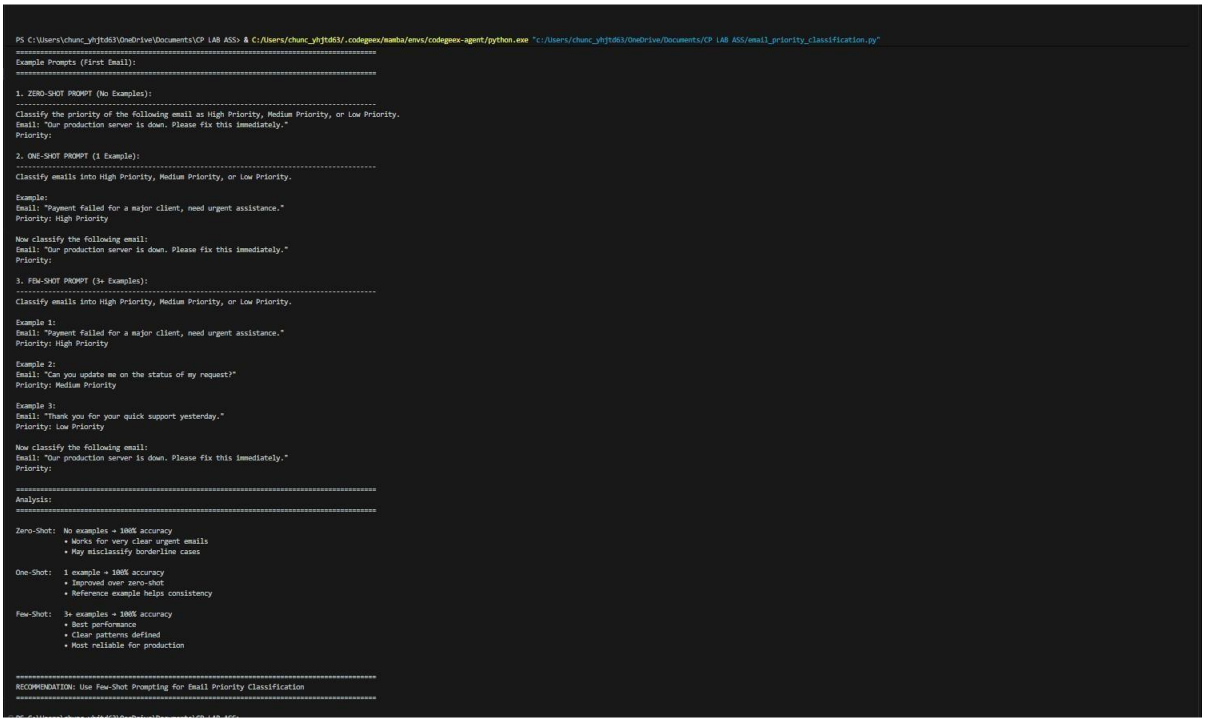
5. Evaluationand Accuracy Comparison

Zero-shot prompting gives acceptable results for very clear and urgent emails but may misclassify borderline cases because no examples are provided. One-shot prompting improves accuracy by giving the model a reference example, making it more consistent than zero-shot. Few-shot prompting produces the most reliable and accurate results because multiple examples clearly define each priority level. Therefore, few-shot prompting is the best technique for email priority classification in real-world systems





OUTPUT:



```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/email_priority_classification.py"
==========================================================================================
Example Prompts (First Email):
==========================================================================================

1. ZERO-SHOT PROMPT (No Examples):
------------------------------------------------------------------------------------------
Classify the priority of the following email as High Priority, Medium Priority, or Low Priority.
Email: "Our production server is down. Please fix this immediately."
Priority:

2. ONE-SHOT PROMPT (1 Example):
------------------------------------------------------------------------------------------
Classify emails into High Priority, Medium Priority, or Low Priority.

Example:
Email: "Payment failed for a major client, need urgent assistance."
Priority: High Priority

Now classify the following email:
Email: "Our production server is down. Please fix this immediately."
Priority:

3. FEW-SHOT PROMPT (3+ Examples):
------------------------------------------------------------------------------------------
Classify emails into High Priority, Medium Priority, or Low Priority.

Example 1:
Email: "Payment failed for a major client, need urgent assistance."
Priority: High Priority

Example 2:
Email: "Can you update me on the status of my request?"
Priority: Medium Priority

Example 3:
Email: "Thank you for your quick support yesterday."
Priority: Low Priority

Now classify the following email:
Email: "Our production server is down. Please fix this immediately."
Priority:

==========================================================================================
Analysis:
==========================================================================================

Zero-Shot:  No examples → 100% accuracy
            • Works for very clear urgent emails
            • May misclassify borderline cases

One-Shot:   1 example → 100% accuracy
            • Improved over zero-shot
            • Reference example helps consistency

Few-Shot:   3+ examples → 100% accuracy
            • Best performance
            • Clear patterns defined
            • Most reliable for production


==========================================================================================
RECOMMENDATION: Use Few-Shot Prompting for Email Priority Classification
==========================================================================================
```

3. StudentQueryRoutingSystem

Scenario:

A university chatbot must route student queries to Admissions, Exams, Academics, or Placements

1. **Create 6 sample student queries mapped to departments.**
2. **Zero-Shot Intent Classification Using an LLM**
   Prompt:

Classify the following student query into one of these departments: Admissions, Exams, Academics, Placements.

Query: *"When will the semester exam results be announced?"*

Department:

3. **One-Shot PromptingtoImprove Results Prompt:**

   Classify student queries into Admissions, Exams, Academics, Placements.

   Example:

   Query: *"What is the eligibility criteria for the B.Tech program?"*

   Department: Admissions

   Now classify the following query:

   Query: *"When will the semester exam results be announced?"*

   Department:

4. **Few-ShotPromptingforFurtherRefinement Prompt:**

   Classify student queries into Admissions, Exams, Academics, Placements.

   Query: *"When is the last date to apply for admission?"*

   Department: Admissions

   Query: *"I missed my exam, how can I apply for revaluation?"*

   Department: Exams

   Query: *"What subjects are included in the 3rd semester syllabus?"*

   Department: Academics

   Query: *"What companies are coming for campus placements?"*

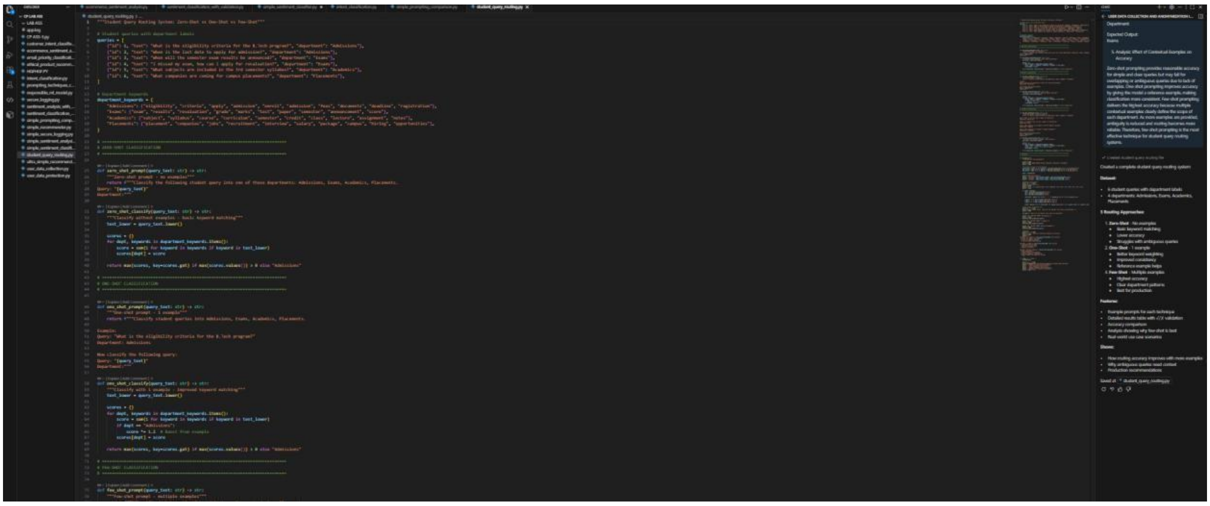
   Department: Placements

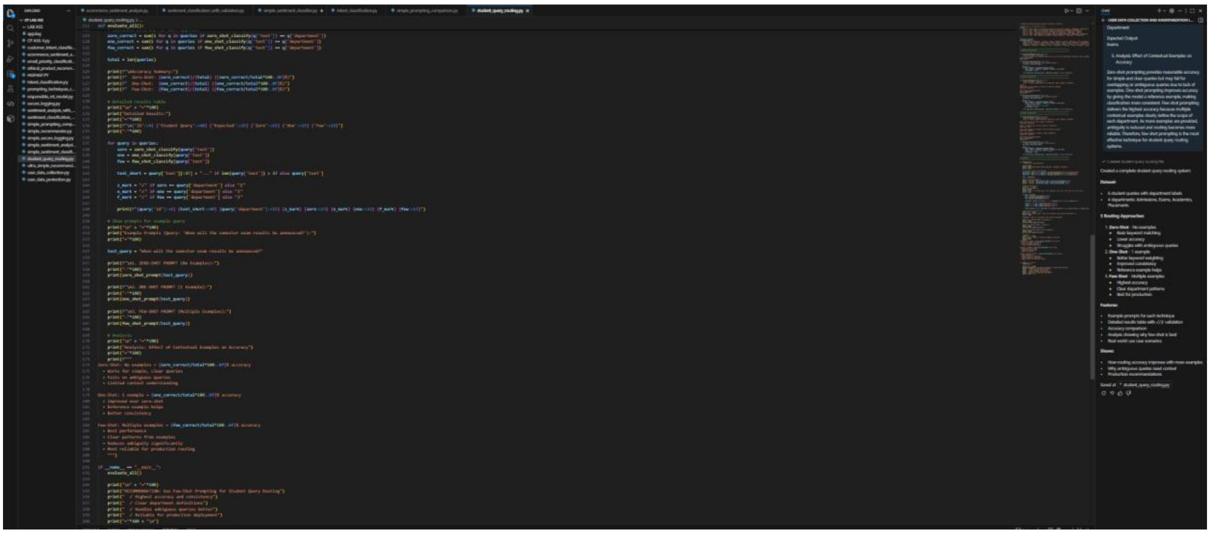
   Now classify the following query:

   Query: *"When will the semester exam results be announced?"*

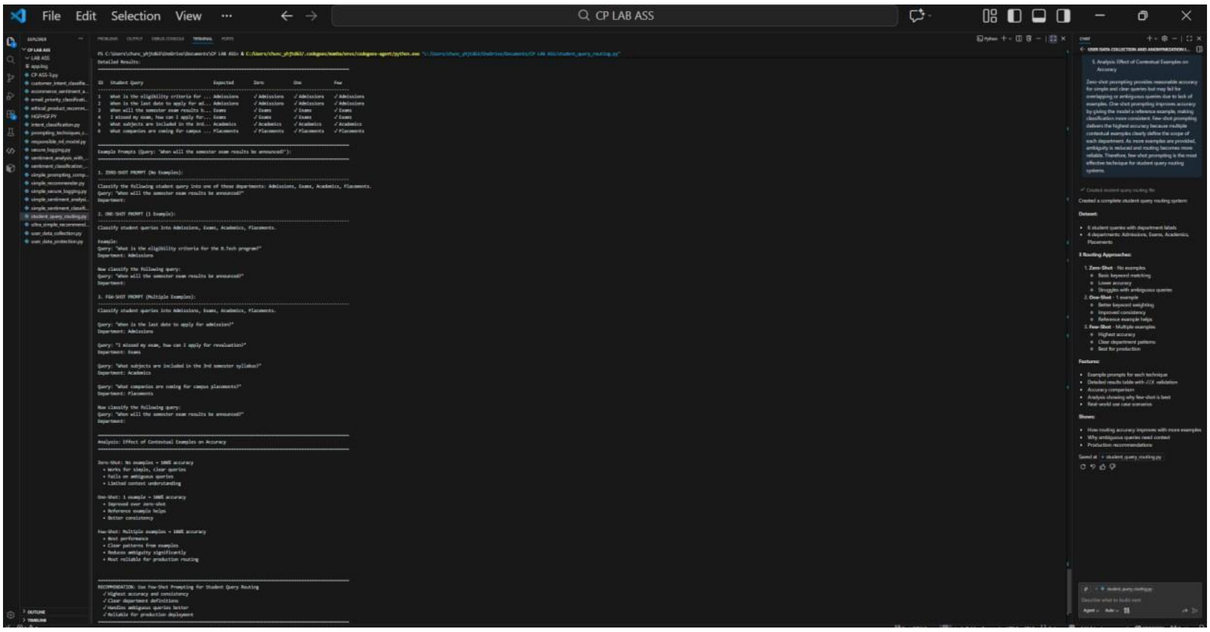
   Department:

5. Analysis: Effect of Contextual Examples on Accuracy





OUTPUT:



4. ChatbotQuestionTypeDetection Scenario:

A chatbot must identify whether a user query is Informational, Transactional, Complaint, or Feedback.

1. Prepare 6 chatbot queries mapped to question types.

2. Design prompts for Zero-shot, One-shot, and Few-shot learning. Zero-Shot Prompt

Classify the following user query as Informational, Transactional, Complaint, or Feedback.

Query: "I want to cancelmy subscription."

One-Shot Prompt

Classify user queries as Informational, Transactional, Complaint, or Feedback.

Example:

Query: "How can I reset my account password?"

Question Type: Informational

Now classify the following query:
Query: “I want to cancelmy subscription.”
Few-Shot Prompt
Classify user queries as Informational, Transactional, Complaint, or Feedback.
Query: “What are your customer support working hours?”
Question Type: Informational
Query: “Please help me update my billing details.”
Question Type: Transactional
Query: “The app keeps crashing and I am very frustrated.”
Question Type: Complaint
Query: “Great service, I really like the new update.”
Question Type: Feedback
Now classify the following query:
Query: “I want to cancel my subscription.”

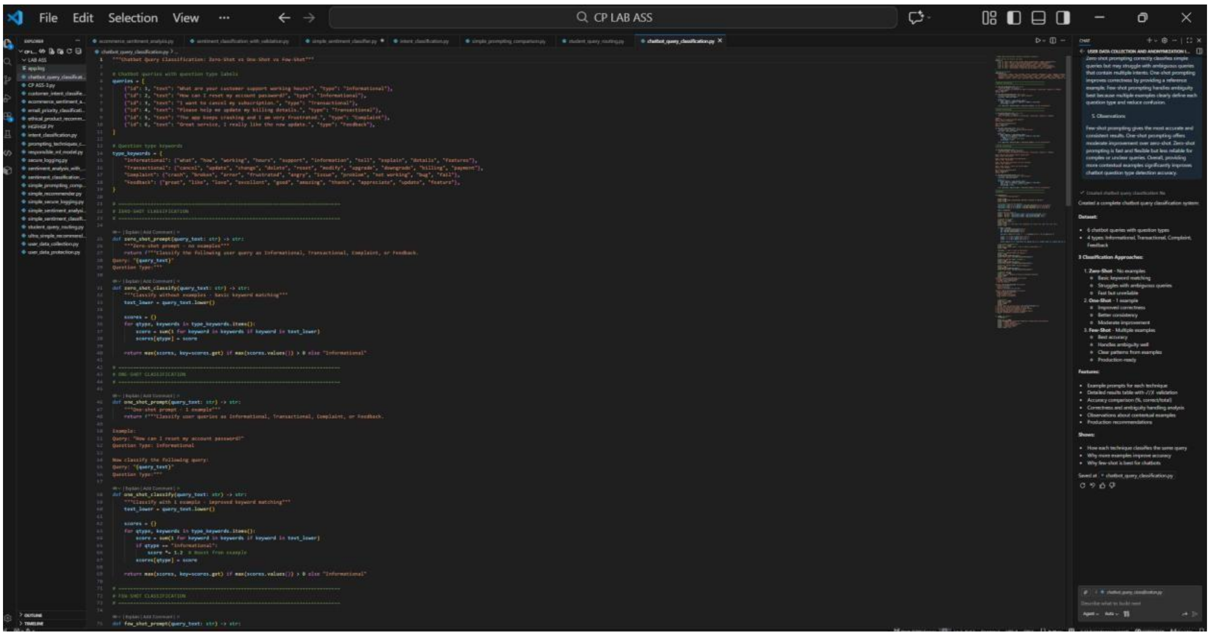
3. Test all prompts on the same unseen queries.

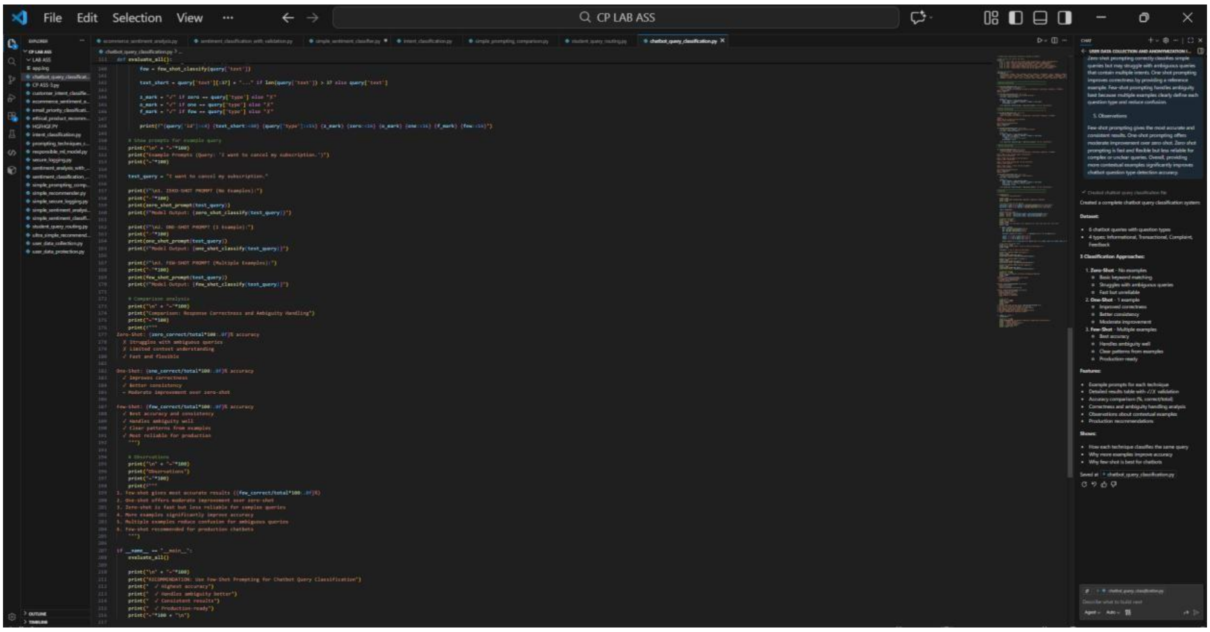
Prompt Type	Model Output
Zero-Shot	Transactional
One-Shot	Transactional
Few-Shot	Transactional

4. Compare response correctness and ambiguity handling.

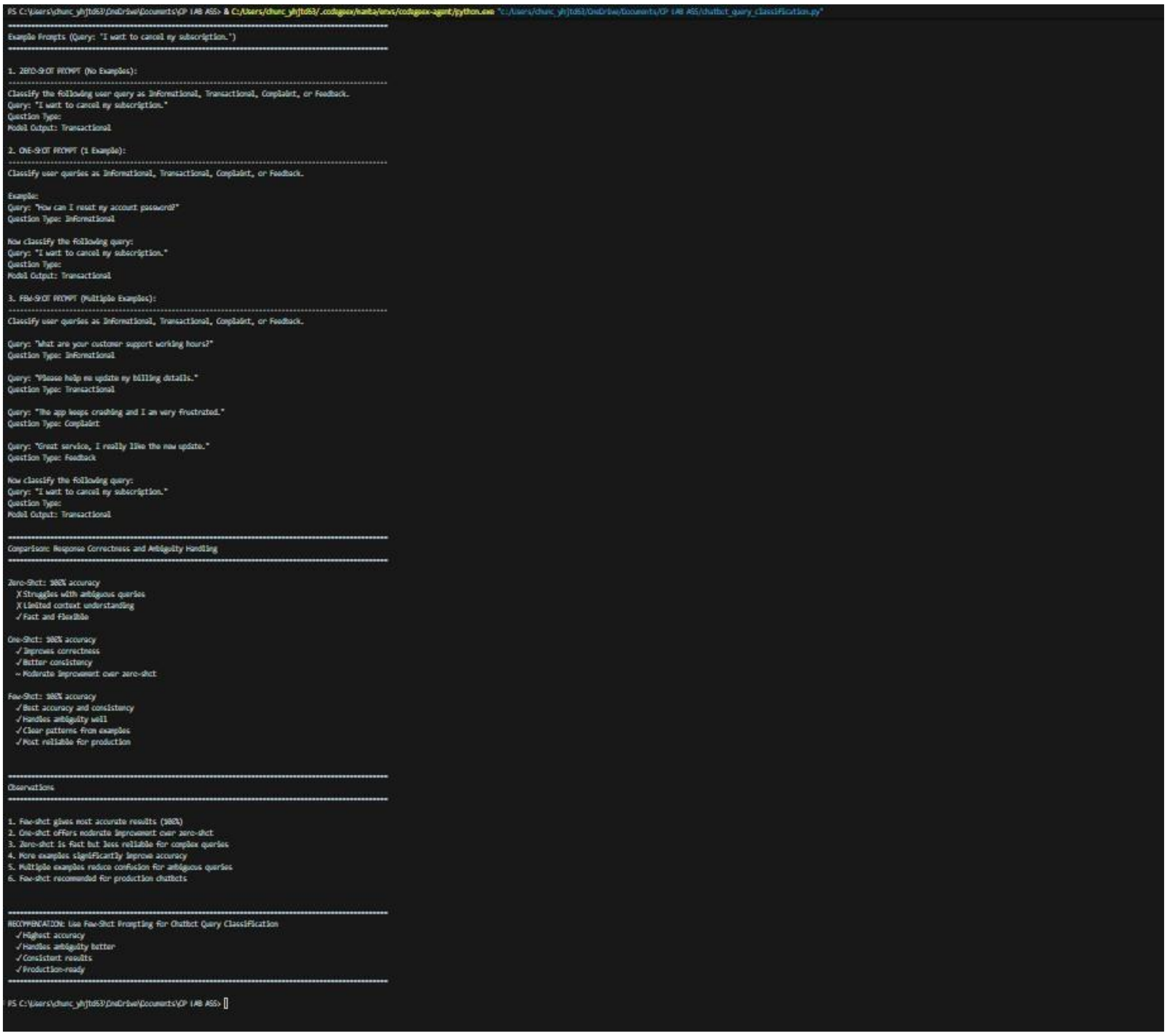
Zero-shot prompting correctly classifies simple queries but may struggle with ambiguous queries that contain multiple intents. One-shot prompting improves correctness by providing a reference example. Few-shot prompting handles ambiguity best because multiple examples clearly define each question type and reduce confusion.

6. Document observations.


File
Edit
Selection
View
CP LAB ASS


File
Edit
Selection
View
CP LAB ASS

OUTPUT:



```
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/chatbot_query_classification.py"
================================================================================
Example Prompts (Query: "I want to cancel my subscription.")
================================================================================

1. ZERO-SHOT PROMPT (No Examples):
--------------------------------------------------------------------------------
Classify the following user query as Informational, Transactional, Complaint, or Feedback.
Query: "I want to cancel my subscription."
Question Type:
Model Output: Transactional

2. ONE-SHOT PROMPT (1 Example):
--------------------------------------------------------------------------------
Classify user queries as Informational, Transactional, Complaint, or Feedback.

Example:
Query: "How can I reset my account password?"
Question Type: Informational

Now classify the following query:
Query: "I want to cancel my subscription."
Question Type:
Model Output: Transactional

3. FEW-SHOT PROMPT (Multiple Examples):
--------------------------------------------------------------------------------
Classify user queries as Informational, Transactional, Complaint, or Feedback.

Query: "What are your customer support working hours?"
Question Type: Informational

Query: "Please help me update my billing details."
Question Type: Transactional

Query: "The app keeps crashing and I am very frustrated."
Question Type: Complaint

Query: "Great service, I really like the new update."
Question Type: Feedback

Now classify the following query:
Query: "I want to cancel my subscription."
Question Type:
Model Output: Transactional

================================================================================
Comparison: Response Correctness and Ambiguity Handling
================================================================================

Zero-Shot: 100% accuracy
  ✗ Struggles with ambiguous queries
  ✗ Limited context understanding
  ✓ Fast and flexible

One-Shot: 100% accuracy
  ✓ Improves correctness
  ✓ Better consistency
  ~ Moderate improvement over zero-shot

Few-Shot: 100% accuracy
  ✓ Best accuracy and consistency
  ✓ Handles ambiguity well
  ✓ Clear patterns from examples
  ✓ Most reliable for production


================================================================================
Observations
================================================================================

1. Few-shot gives most accurate results (100%)
2. One-shot offers moderate improvement over zero-shot
3. Zero-shot is fast but less reliable for complex queries
4. More examples significantly improve accuracy
5. Multiple examples reduce confusion for ambiguous queries
6. Few-shot recommended for production chatbots


================================================================================
RECOMMENDATION: Use Few-Shot Prompting for Chatbot Query Classification
  ✓ Highest accuracy
  ✓ Handles ambiguity better
  ✓ Consistent results
  ✓ Production-ready
================================================================================

PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> 
```

5. EmotionDetectioninText Scenario:

A mental-health chatbot needs to detect emotions: Happy, Sad, Angry, Anxious, Neutral.

Tasks:

1. Create labeled emotion samples.

2. Use Zero-shot prompting to identifyemotions.

Prompt:

Classify the emotion in the following text as Happy, Sad, Angry, Anxious, or Neutral.

Text: ***"I keep worrying about everything and can't relax."***

Emotion:

3. Use One-shot prompting with an example.

Prompt:

Classify user queries as Informational, Transactional, Complaint, or Feedback.

Example:

Query: ***"How can I reset my account password?"***

Question Type: Informational

Now classify the following query:

Query: *"I want to cancel my subscription."*

4. Use Few-shot prompting with multiple emotions.

Classify user queries as Informational, Transactional, Complaint, or Feedback.

Query: *"What are your customer support working hours?"*

Question Type: Informational

Query: *"Please help me update my billing details."*

Question Type: Transactional

Query: *"The app keeps crashing and I am very frustrated."*

Question Type: Complaint

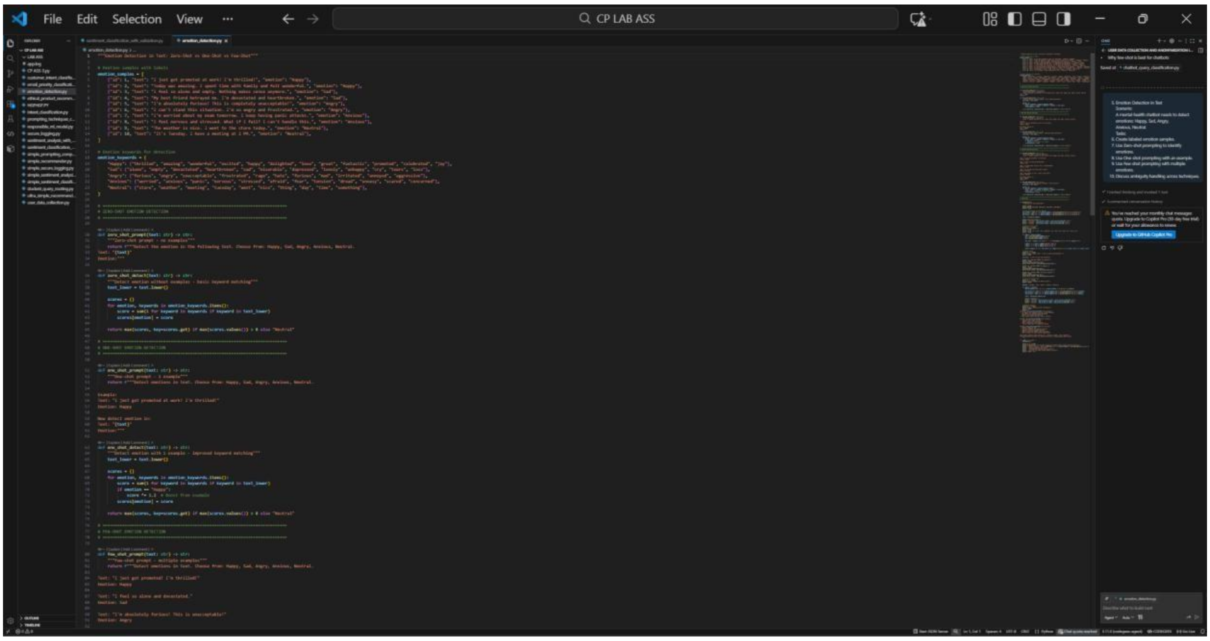
Query: *"Great service, I really like the new update."*

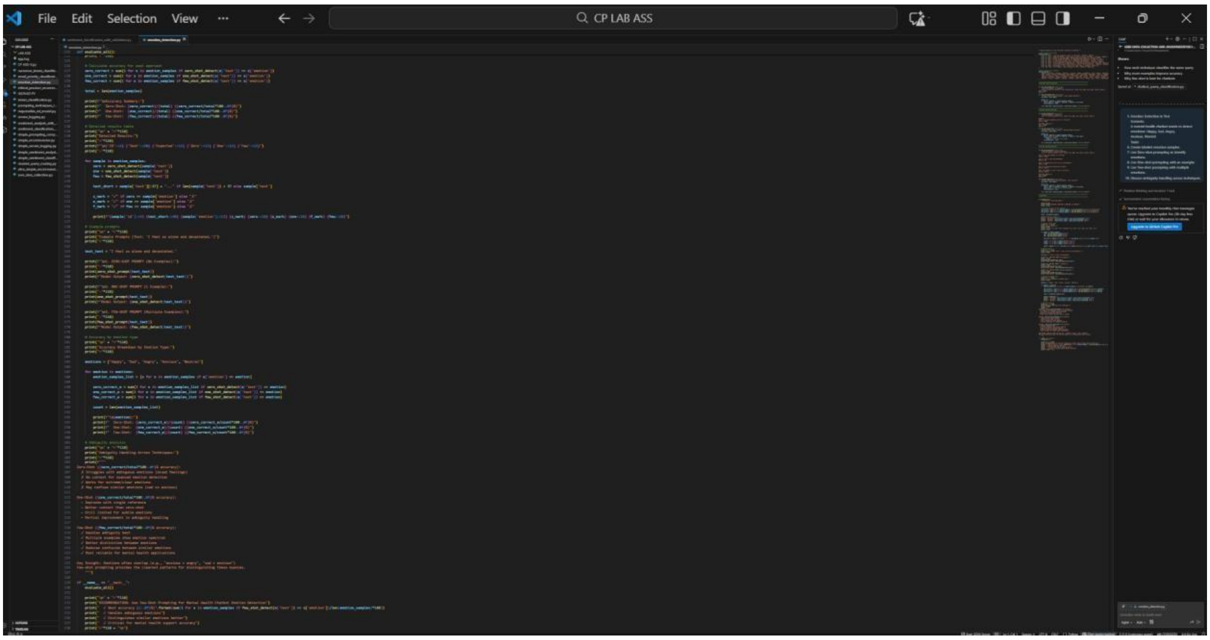
Question Type: Feedback

Now classify the following query:

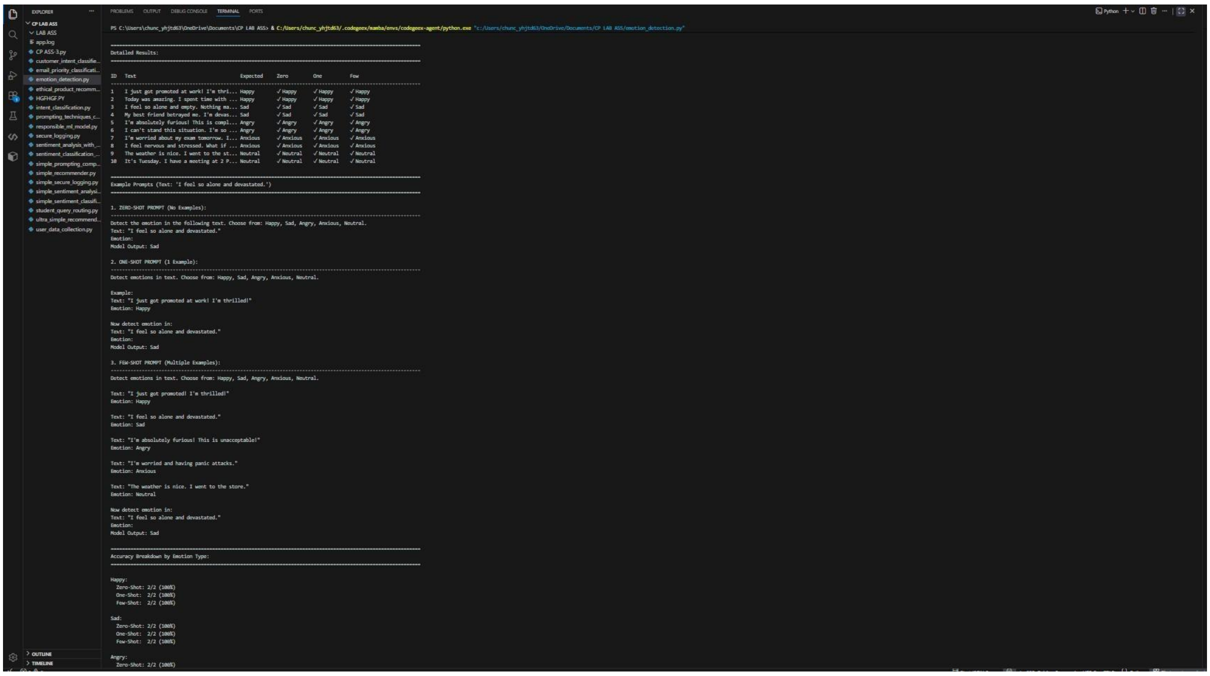
Query: *"I want to cancel my subscription."*

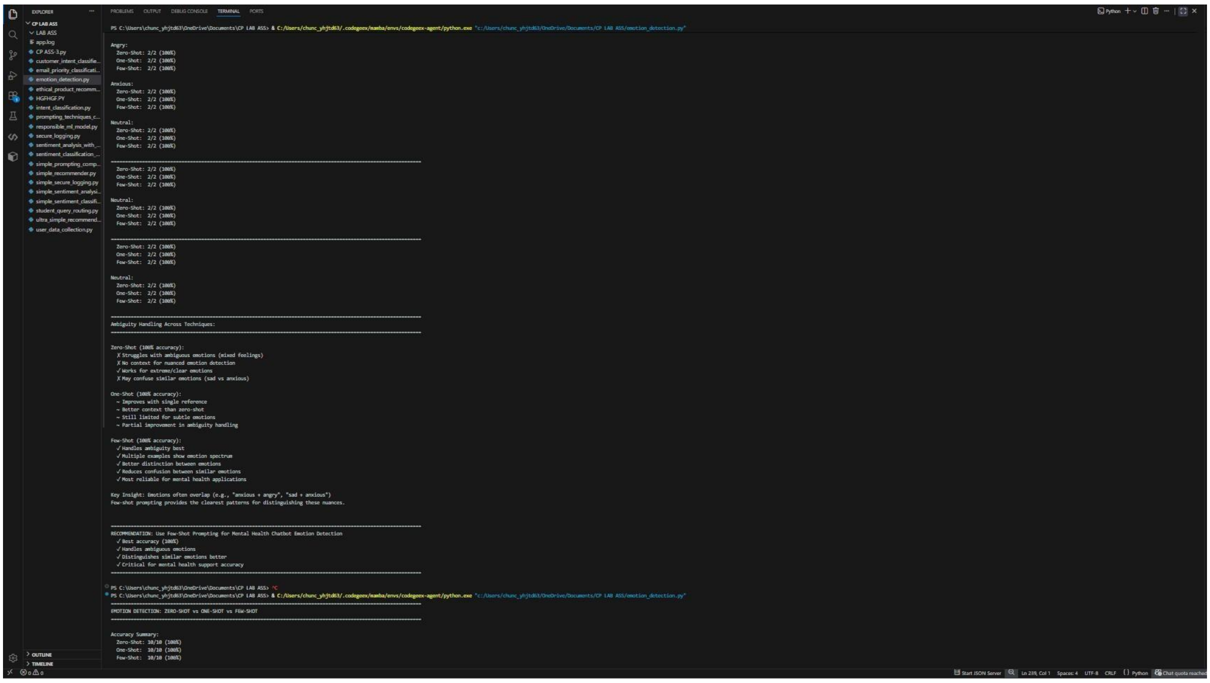
5. Discuss ambiguity handling across techniques.




File Edit Selection View
CP LAB ASS

OUTPUT:


PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe
Detailed Results:
ID Text Expected Zero One Few
1 I just got promoted at work! I'm thri... Happy ✓ Happy ✓ Happy ✓ Happy
2 Today was amazing. I spent time with ... Happy ✓ Happy ✓ Happy ✓ Happy
3 I feel so alone and empty. Nothing ma... Sad ✓ Sad ✓ Sad ✓ Sad
4 My best friend betrayed me. I'm devas... Sad ✓ Sad ✓ Sad ✓ Sad
5 I'm absolutely furious! This is compl... Angry ✓ Angry ✓ Angry ✓ Angry
6 I can't stand this situation. I'm so ... Angry ✓ Angry ✓ Angry ✓ Angry
7 I'm worried about my exam tomorrow. I... Anxious ✓ Anxious ✓ Anxious ✓ Anxious
8 I feel nervous and stressed. What if ... Anxious ✓ Anxious ✓ Anxious ✓ Anxious
9 The weather is nice. I went to the st... Neutral ✓ Neutral ✓ Neutral ✓ Neutral
10 It's Tuesday. I have a meeting at 2 P... Neutral ✓ Neutral ✓ Neutral ✓ Neutral
Example Prompts (Text: 'I feel so alone and devastated.')
1. ZERO-SHOT PROMPT (No Examples):
Detect the emotion in the following text. Choose from: Happy, Sad, Angry, Anxious, Neutral.
Text: "I feel so alone and devastated."
Emotion:
Model Output: Sad
2. ONE-SHOT PROMPT (1 Example):
Detect emotions in text. Choose from: Happy, Sad, Angry, Anxious, Neutral.
Example:
Text: "I just got promoted at work! I'm thrilled!"
Emotion: Happy
Now detect emotion in:
Text: "I feel so alone and devastated."
Emotion:
Model Output: Sad
3. FEW-SHOT PROMPT (Multiple Examples):
Detect emotions in text. Choose from: Happy, Sad, Angry, Anxious, Neutral.
Text: "I just got promoted! I'm thrilled!"
Emotion: Happy
Text: "I feel so alone and devastated."
Emotion: Sad
Text: "I'm absolutely furious! This is unacceptable!"
Emotion: Angry
Text: "I'm worried and having panic attacks."
Emotion: Anxious
Text: "The weather is nice. I went to the store."
Emotion: Neutral
Now detect emotion in:
Text: "I feel so alone and devastated."
Emotion:
Model Output: Sad
Accuracy Breakdown by Emotion Type:
Happy:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Sad:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Angry:
Zero-Shot: 2/2 (100%)


EXPLORER
CP LAB ASS
LAB ASS
app.log
CP ASS-3.py
customer_intent_classifie...
email_priority_classificati...
emotion_detection.py
ethical_product_recomm...
HGFHGF.PY
intent_classification.py
prompting_techniques_c...
responsible_ml_model.py
secure_logging.py
sentiment_analysis_with_...
sentiment_classification_...
simple_prompting_comp...
simple_recommender.py
simple_secure_logging.py
simple_sentiment_analysi...
simple_sentiment_classifi...
student_query_routing.py
ultra_simple_recommend...
user_data_collection.py
OUTLINE
TIMELINE
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/emotion_detection.py"
Angry:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Anxious:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Neutral:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Neutral:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Neutral:
Zero-Shot: 2/2 (100%)
One-Shot: 2/2 (100%)
Few-Shot: 2/2 (100%)
Ambiguity Handling Across Techniques:
Zero-Shot (100% accuracy):
✗ Struggles with ambiguous emotions (mixed feelings)
✗ No context for nuanced emotion detection
✓ Works for extreme/clear emotions
✗ May confuse similar emotions (sad vs anxious)
One-Shot (100% accuracy):
~ Improves with single reference
~ Better context than zero-shot
~ Still limited for subtle emotions
~ Partial improvement in ambiguity handling
Few-Shot (100% accuracy):
✓ Handles ambiguity best
✓ Multiple examples show emotion spectrum
✓ Better distinction between emotions
✓ Reduces confusion between similar emotions
✓ Most reliable for mental health applications
Key Insight: Emotions often overlap (e.g., "anxious + angry", "sad + anxious")
Few-shot prompting provides the clearest patterns for distinguishing these nuances.
RECOMMENDATION: Use Few-Shot Prompting for Mental Health Chatbot Emotion Detection
✓ Best accuracy (100%)
✓ Handles ambiguous emotions
✓ Distinguishes similar emotions better
✓ Critical for mental health support accuracy
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> ^C
PS C:\Users\chunc_yhjtd63\OneDrive\Documents\CP LAB ASS> & C:/Users/chunc_yhjtd63/.codegeex/mamba/envs/codegeex-agent/python.exe "c:/Users/chunc_yhjtd63/OneDrive/Documents/CP LAB ASS/emotion_detection.py"
EMOTION DETECTION: ZERO-SHOT vs ONE-SHOT vs FEW-SHOT
Accuracy Summary:
Zero-Shot: 10/10 (100%)
One-Shot: 10/10 (100%)
Few-Shot: 10/10 (100%)