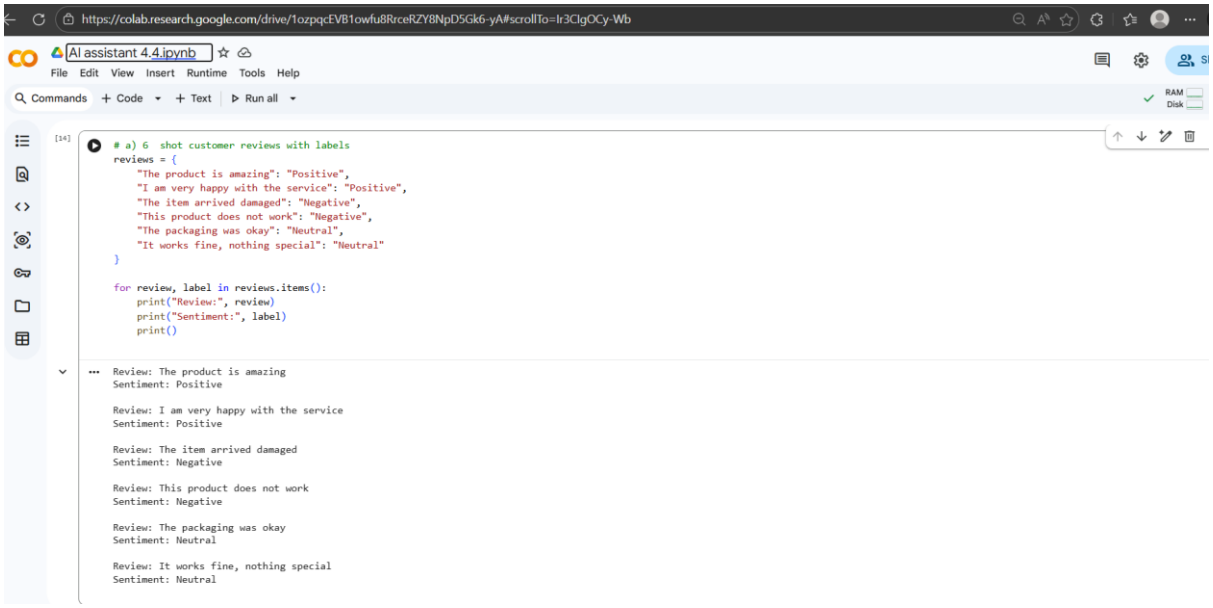
Assignment-4.4

Name:M.Sanjana

H.T.NO:2303A52292

Scenario1: E-commerce

a) 6 short customer reviews mapped to sentiment labels.



```
# a) 6  shot customer reviews with labels
reviews = {
    "The product is amazing": "Positive",
    "I am very happy with the service": "Positive",
    "The item arrived damaged": "Negative",
    "This product does not work": "Negative",
    "The packaging was okay": "Neutral",
    "It works fine, nothing special": "Neutral"
}

for review, label in reviews.items():
    print("Review:", review)
    print("Sentiment:", label)
    print()
```

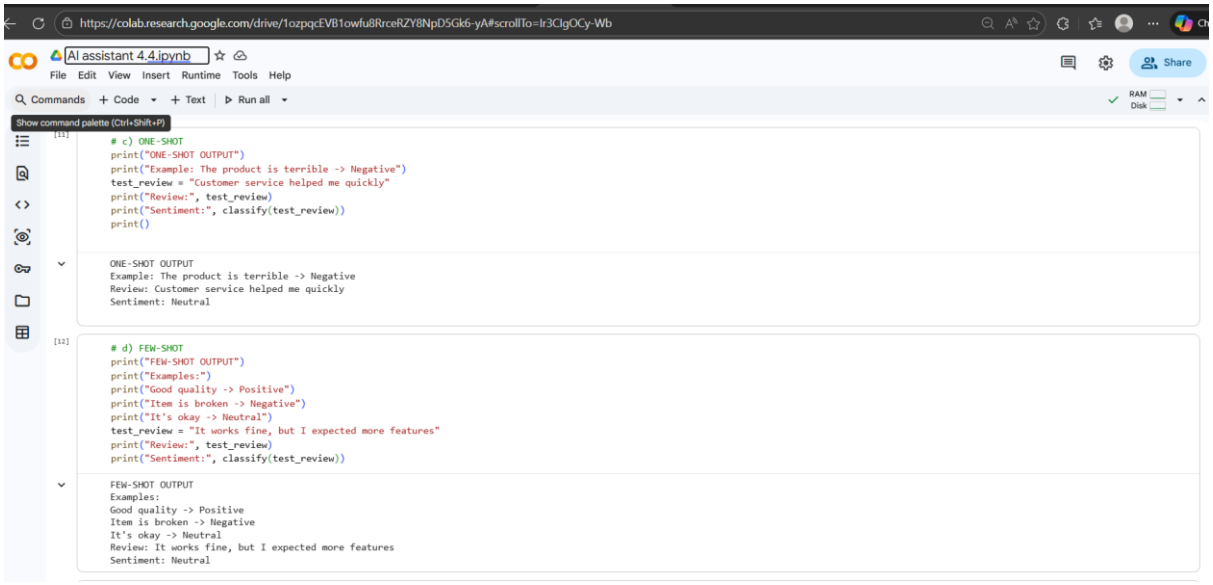
```
Review: The product is amazing
Sentiment: Positive

Review: I am very happy with the service
Sentiment: Positive

Review: The item arrived damaged
Sentiment: Negative

Review: This product does not work
Sentiment: Negative

Review: The packaging was okay
Sentiment: Neutral

Review: It works fine, nothing special
Sentiment: Neutral
```

b) Zero shot

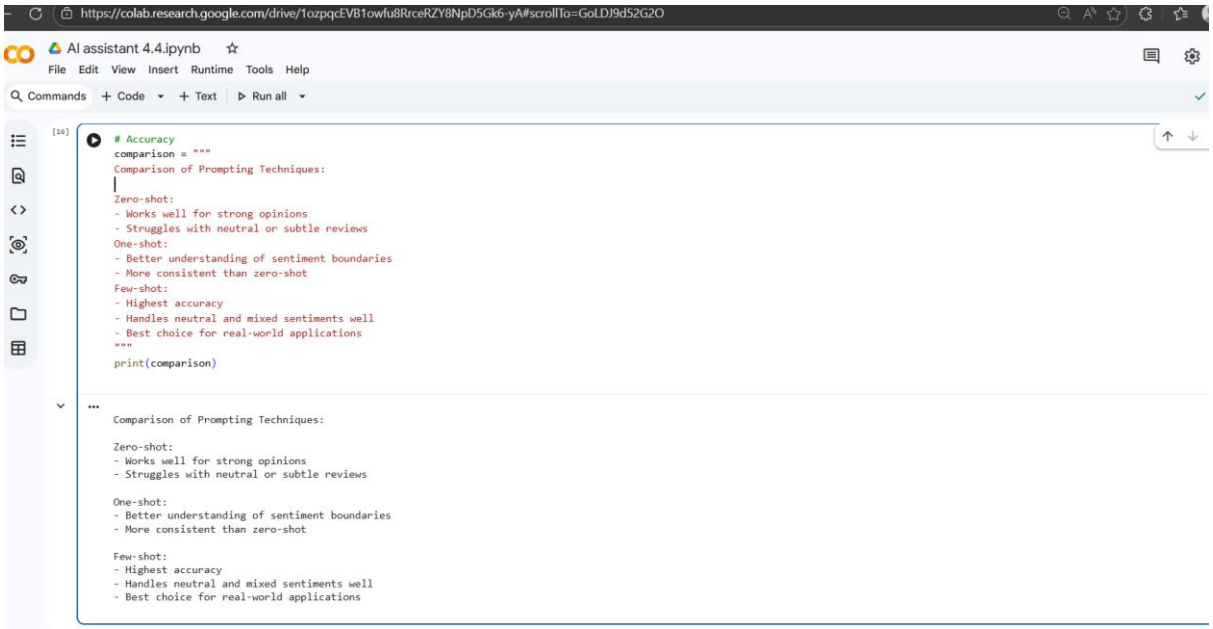
```
# b) ZERO-SHOT
def classify(review):
    zero_shot_prompt = f"""Classify the sentiment of the following customer review into Positive, Negative, or Neutral.
Review: "{review}"
Sentiment:"""

    if "amazing" in review.lower() or "fast" in review.lower() or "love" in review.lower() or "fantastic" in review.lower():
        return "Positive"
    elif "terrible" in review.lower() or "disappointing" in review.lower() or "broke" in review.lower() or "late" in review.lower():
        return "Negative"
    else:
        return "Neutral"

print("ZERO-SHOT OUTPUT")
test_review = "The product quality is amazing and delivery was fast"
print("Review:", test_review)
print("Sentiment:", classify(test_review))
print()
```

```
ZERO-SHOT OUTPUT
Review: The product quality is amazing and delivery was fast
Sentiment: Positive
```

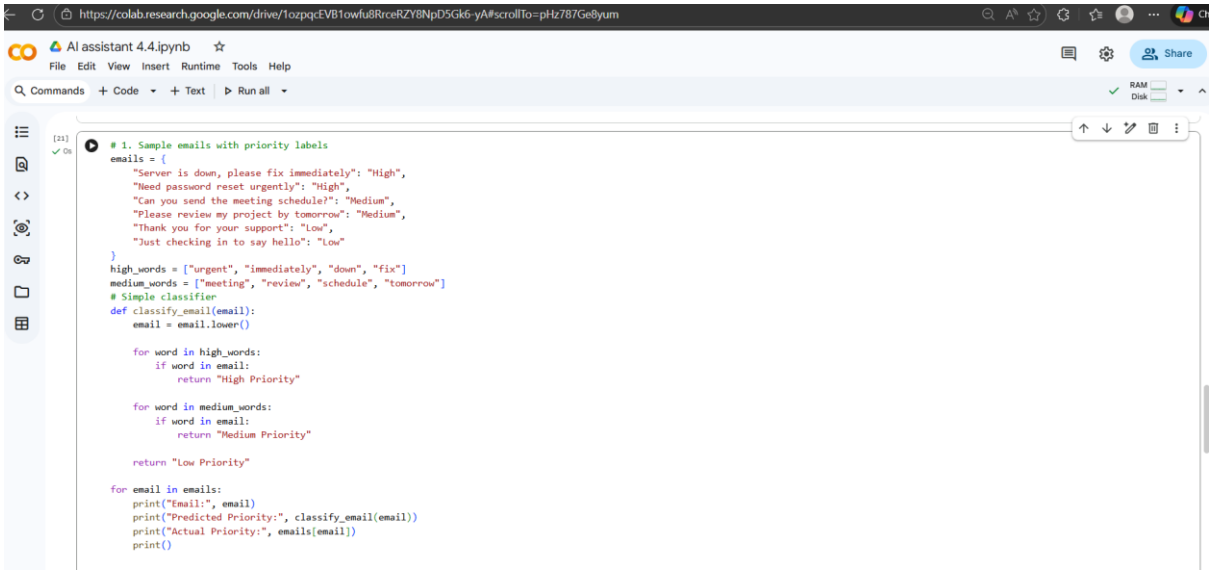
One-shot & Few shot



Comparision

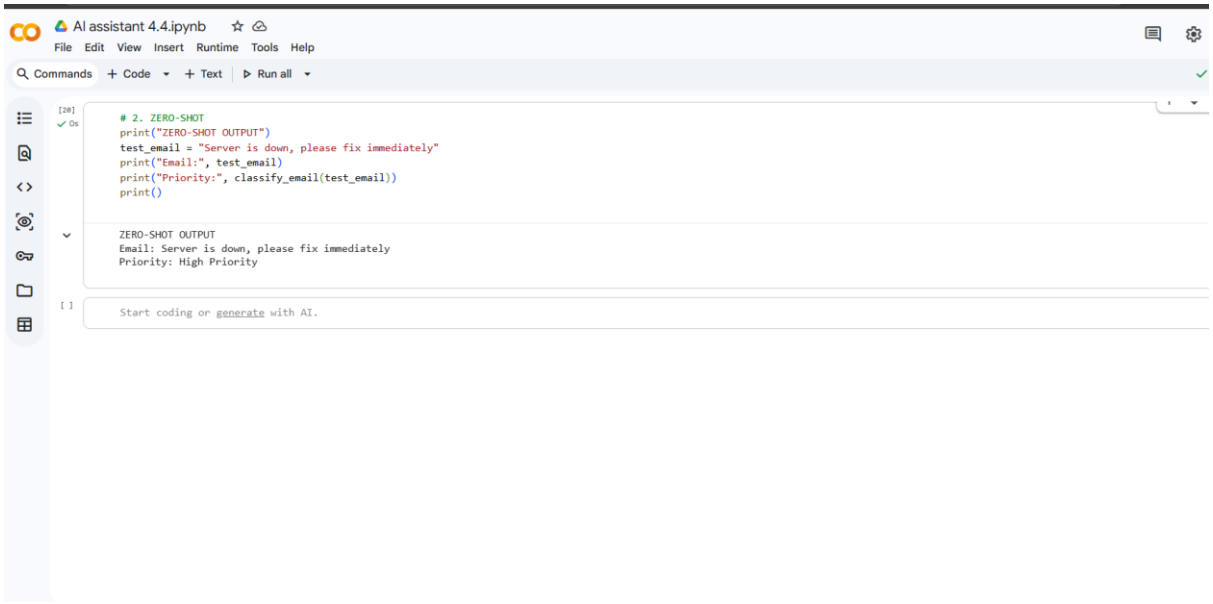


Scenario2: Email Priority Classification

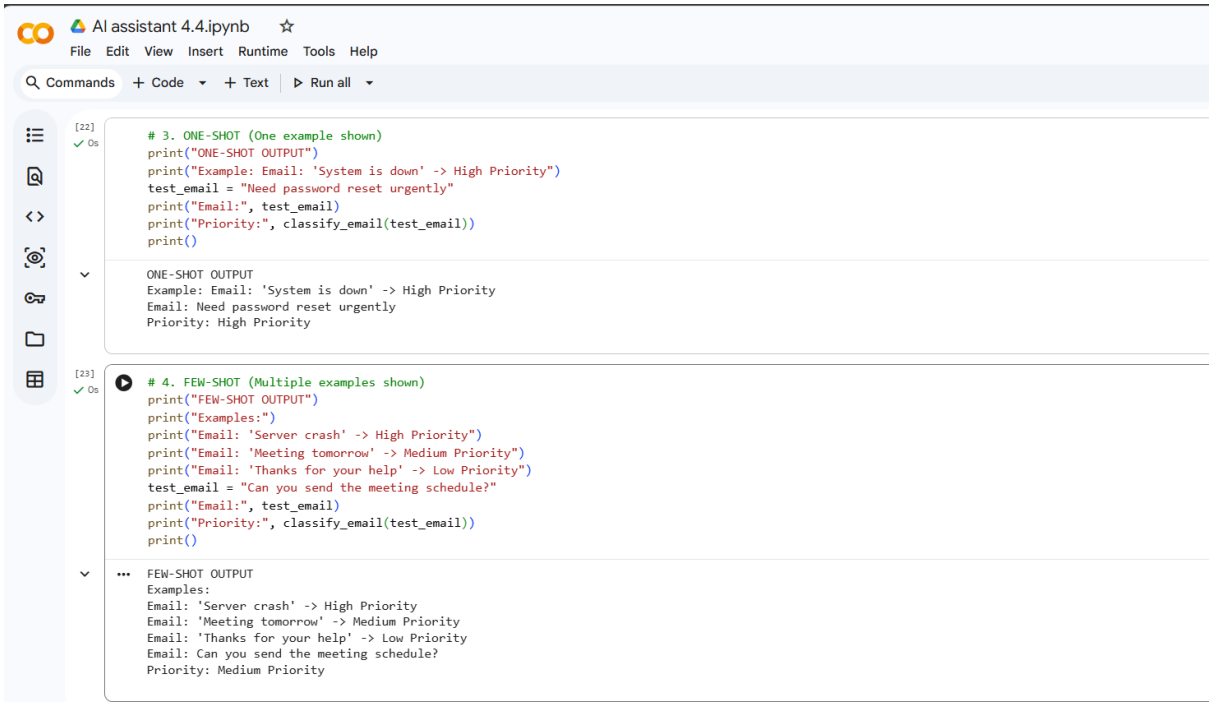



```
Email: Server is down, please fix immediately
Predicted Priority: High Priority
Actual Priority: High

Email: Need password reset urgently
Predicted Priority: High Priority
Actual Priority: High

Email: Can you send the meeting schedule?
Predicted Priority: Medium Priority
Actual Priority: Medium

Email: Please review my project by tomorrow
Predicted Priority: Medium Priority
Actual Priority: Medium

Email: Thank you for your support
Predicted Priority: Low Priority
Actual Priority: Low

Email: Just checking in to say hello
Predicted Priority: Low Priority
Actual Priority: Low
```

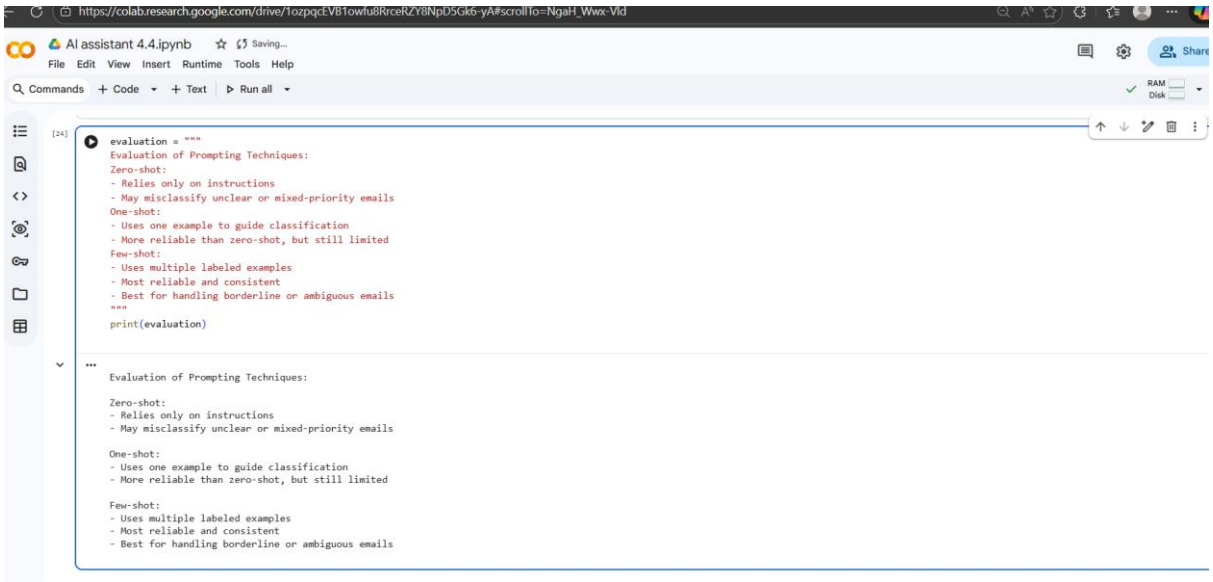
Zero shot



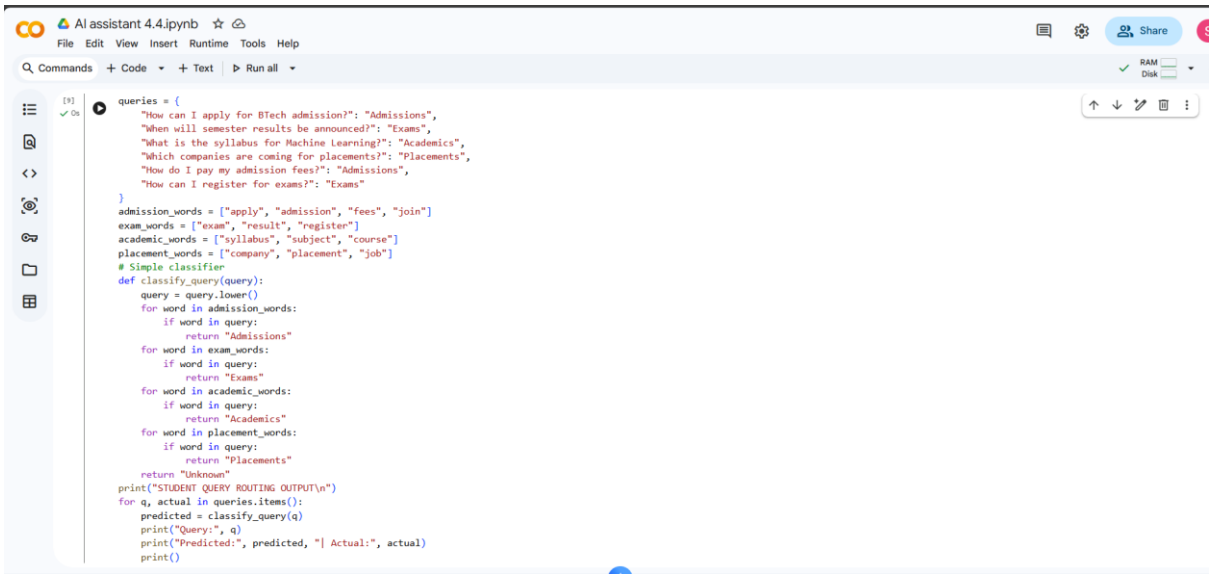
One shot&few shot



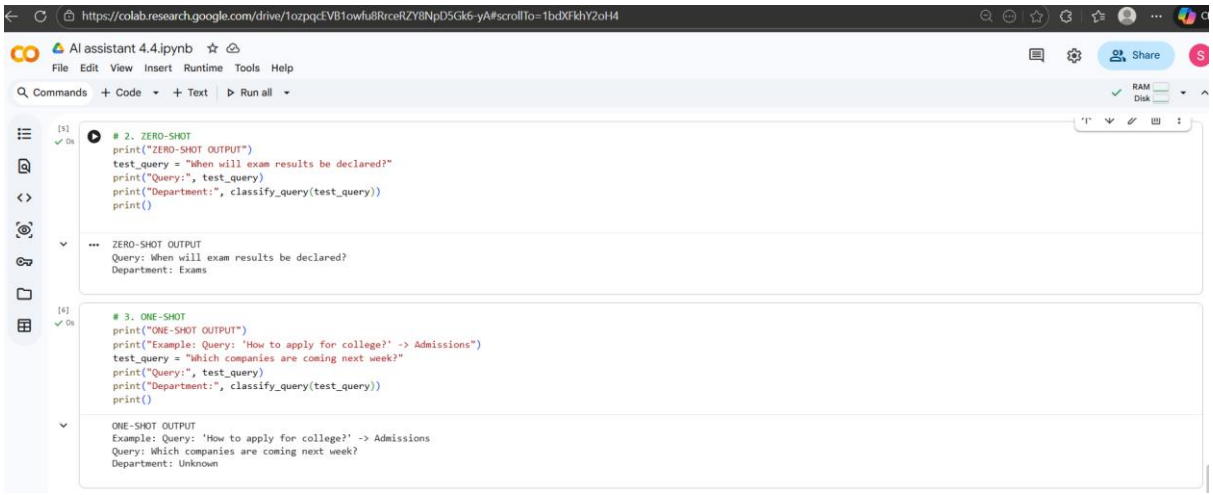
Comparision



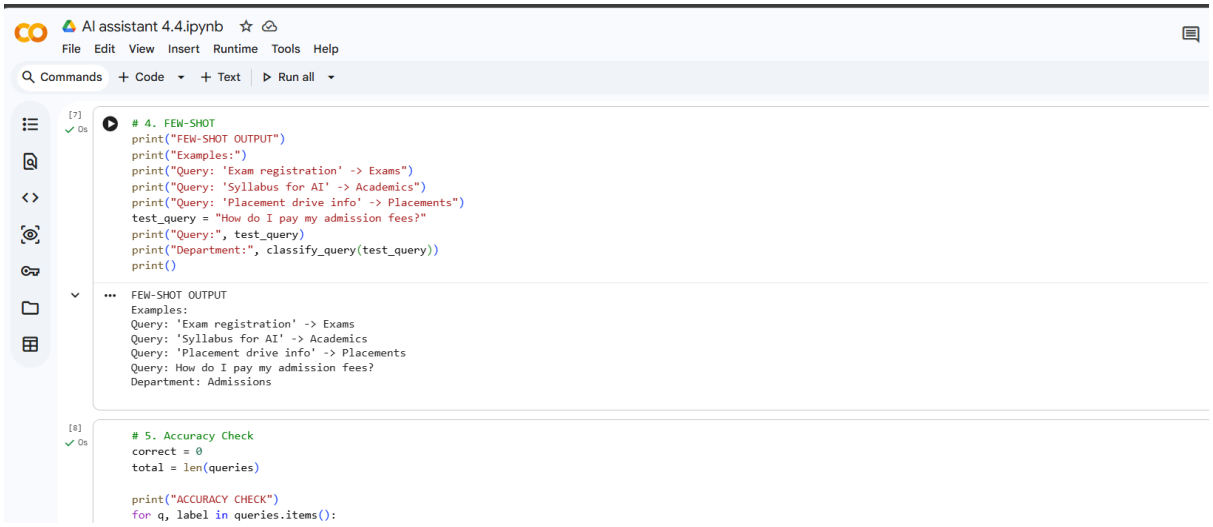
Scenario3: Student Query Routing System

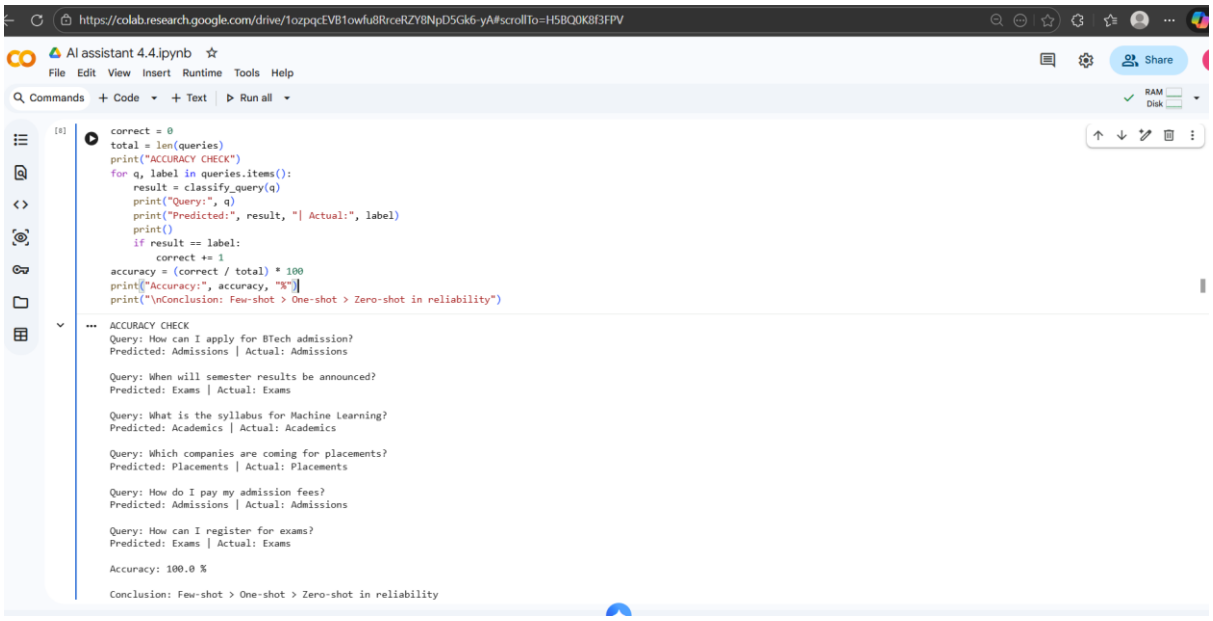


Zero shot&one shot

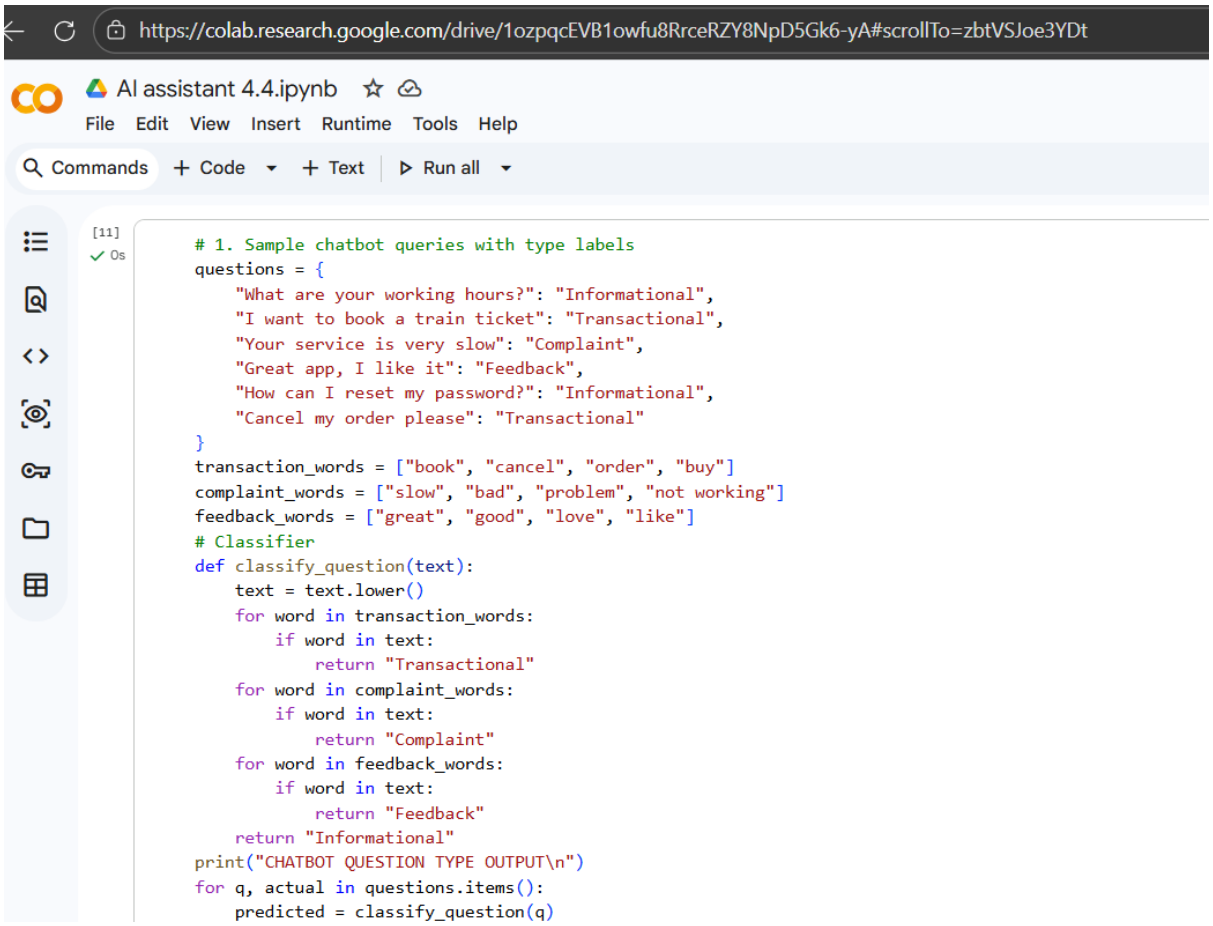


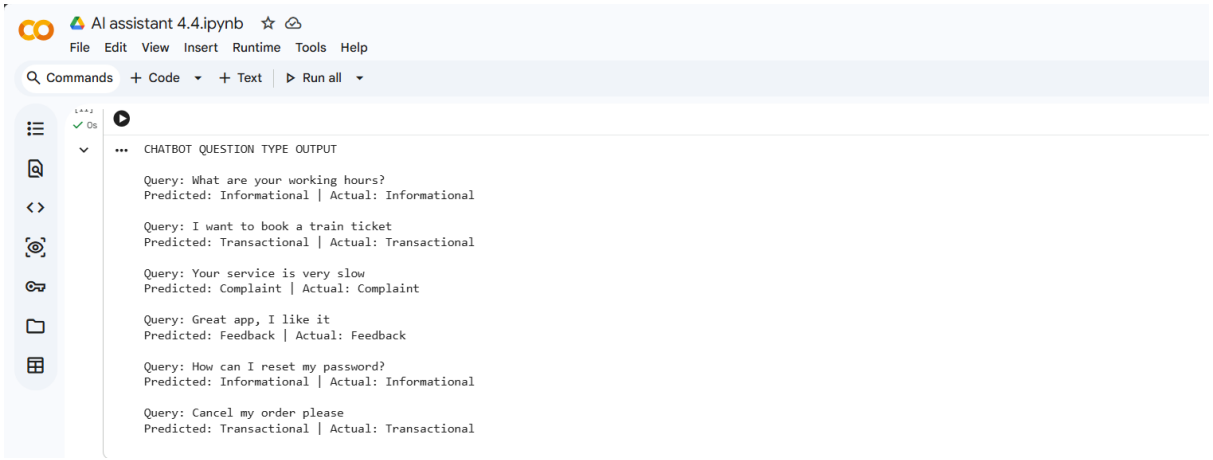
Few shot


AI assistant 4.4.ipynb
File Edit View Insert Runtime Tools Help
Commands + Code + Text Run all
[7]
# 4. FEW-SHOT
print("FEW-SHOT OUTPUT")
print("Examples:")
print("Query: 'Exam registration' -> Exams")
print("Query: 'Syllabus for AI' -> Academics")
print("Query: 'Placement drive info' -> Placements")
test_query = "How do I pay my admission fees?"
print("Query:", test_query)
print("Department:", classify_query(test_query))
print()
FEW-SHOT OUTPUT
Examples:
Query: 'Exam registration' -> Exams
Query: 'Syllabus for AI' -> Academics
Query: 'Placement drive info' -> Placements
Query: How do I pay my admission fees?
Department: Admissions
[8]
# 5. Accuracy Check
correct = 0
total = len(queries)
print("ACCURACY CHECK")
for q, label in queries.items():


https://colab.research.google.com/drive/1ozpqcEVB1owfu8RrceRZY8NpD5Gk6-yA#scrollTo=H5BQ0K8f3FPV
AI assistant 4.4.ipynb
File Edit View Insert Runtime Tools Help
Share
Commands + Code + Text Run all
RAM
Disk
[8]
correct = 0
total = len(queries)
print("ACCURACY CHECK")
for q, label in queries.items():
result = classify_query(q)
print("Query:", q)
print("Predicted:", result, "| Actual:", label)
print()
if result == label:
correct += 1
accuracy = (correct / total) * 100
print("Accuracy:", accuracy, "%")
print("\nConclusion: Few-shot > One-shot > Zero-shot in reliability")
ACCURACY CHECK
Query: How can I apply for BTech admission?
Predicted: Admissions | Actual: Admissions
Query: When will semester results be announced?
Predicted: Exams | Actual: Exams
Query: What is the syllabus for Machine Learning?
Predicted: Academics | Actual: Academics
Query: Which companies are coming for placements?
Predicted: Placements | Actual: Placements
Query: How do I pay my admission fees?
Predicted: Admissions | Actual: Admissions
Query: How can I register for exams?
Predicted: Exams | Actual: Exams
Accuracy: 100.0 %
Conclusion: Few-shot > One-shot > Zero-shot in reliability

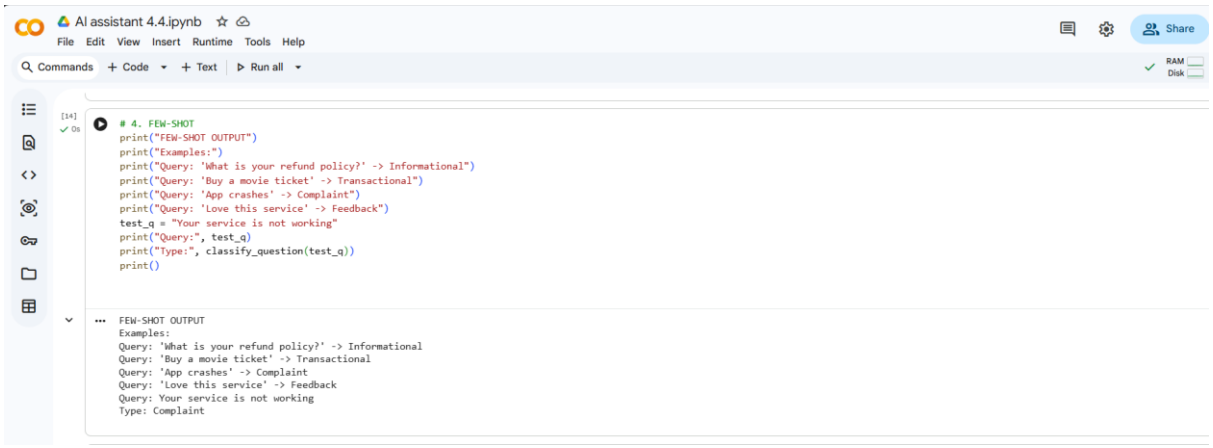
Scenario4: Chatbot Question Type Detection

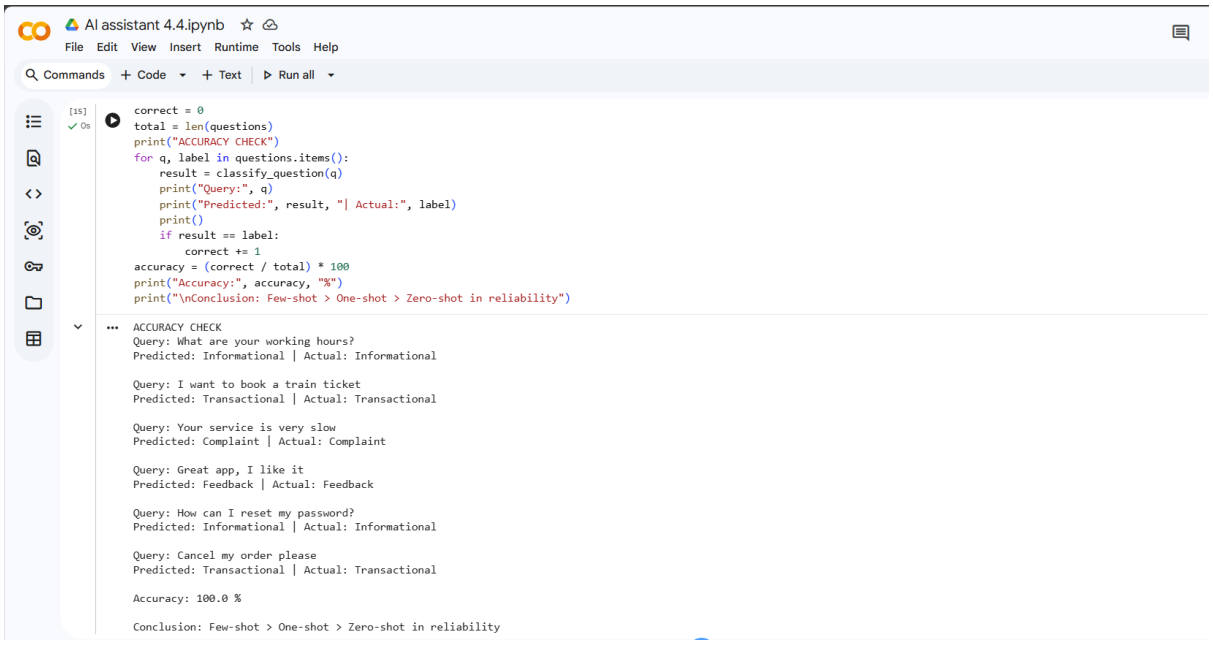




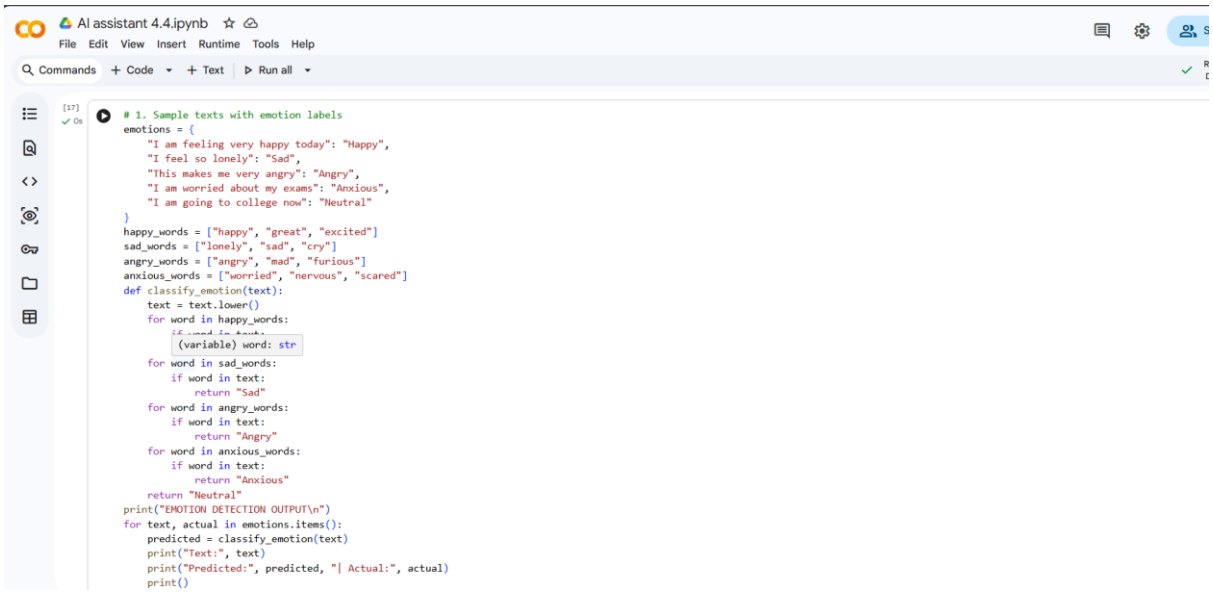
zero shot&one shot

Few shot

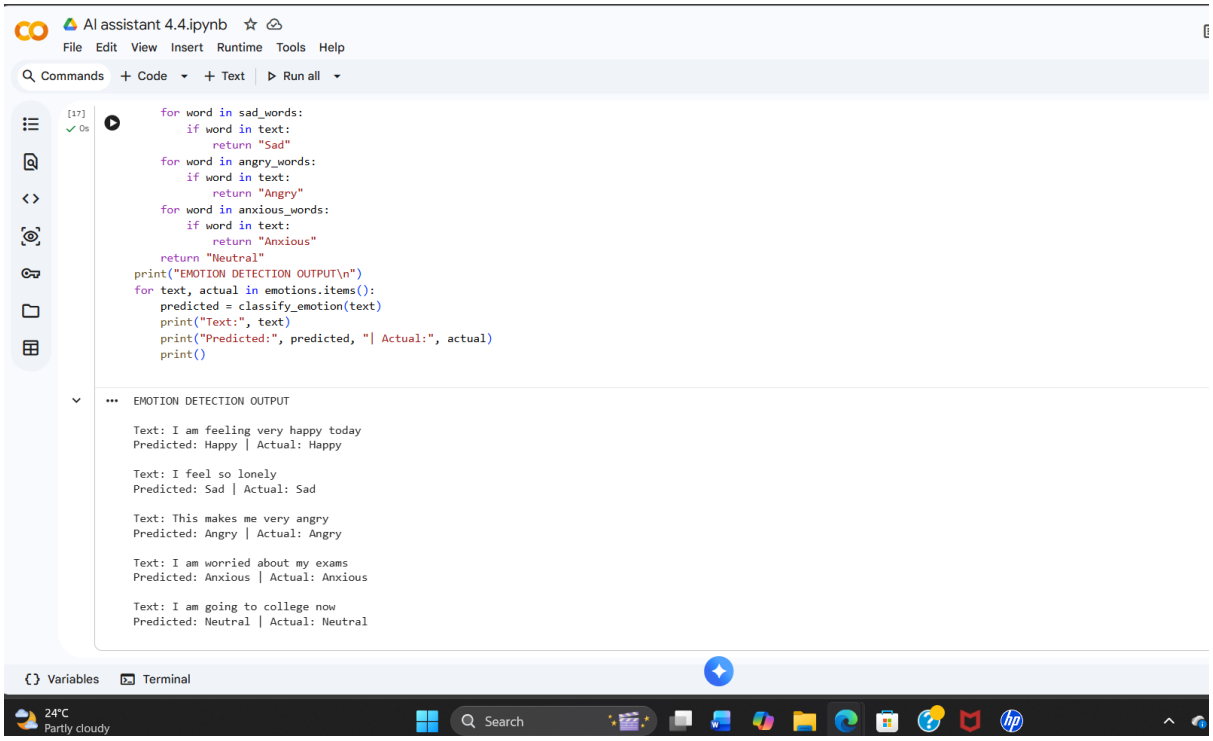




Scenario5: Emotion Detection in Text



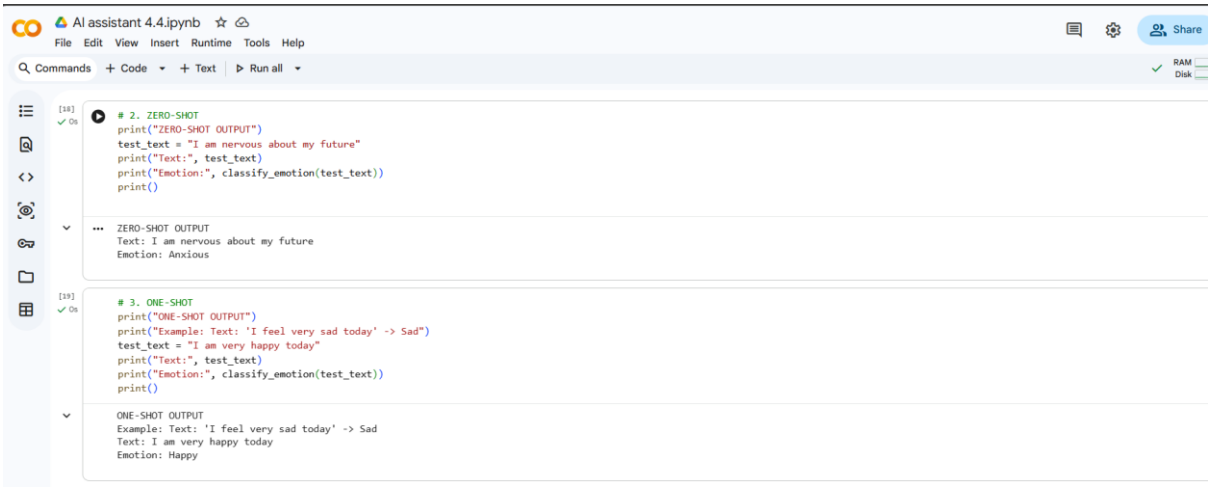
```
# 1. Sample texts with emotion labels
emotions = {
    "I am feeling very happy today": "Happy",
    "I feel so lonely": "Sad",
    "This makes me very angry": "Angry",
    "I am worried about my exams": "Anxious",
    "I am going to college now": "Neutral"
}
happy_words = ["happy", "great", "excited"]
sad_words = ["lonely", "sad", "cry"]
angry_words = ["angry", "mad", "furious"]
anxious_words = ["worried", "nervous", "scared"]
def classify_emotion(text):
    text = text.lower()
    for word in happy_words:
        (variable) word: str
    for word in sad_words:
        if word in text:
            return "Sad"
    for word in angry_words:
        if word in text:
            return "Angry"
    for word in anxious_words:
        if word in text:
            return "Anxious"
    return "Neutral"
print("EMOTION DETECTION OUTPUT\n")
for text, actual in emotions.items():
    predicted = classify_emotion(text)
    print("Text:", text)
    print("Predicted:", predicted, "| Actual:", actual)
    print()
```



```
    for word in sad_words:
        if word in text:
            return "Sad"
    for word in angry_words:
        if word in text:
            return "Angry"
    for word in anxious_words:
        if word in text:
            return "Anxious"
    return "Neutral"
print("EMOTION DETECTION OUTPUT\n")
for text, actual in emotions.items():
    predicted = classify_emotion(text)
    print("Text:", text)
    print("Predicted:", predicted, "| Actual:", actual)
    print()
```

```
EMOTION DETECTION OUTPUT

Text: I am feeling very happy today
Predicted: Happy | Actual: Happy

Text: I feel so lonely
Predicted: Sad | Actual: Sad

Text: This makes me very angry
Predicted: Angry | Actual: Angry

Text: I am worried about my exams
Predicted: Anxious | Actual: Anxious

Text: I am going to college now
Predicted: Neutral | Actual: Neutral
```

Zero&one shot



Few shot