

# Lab Assignment 4.1

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BATCH - 27

## Problem Statement 1: Customer Email Classification

### Step 1: Prepare Sample Emails

Email ID	Email Text	Category
E1	I was charged twice for my last bill	Billing
E2	My app is crashing when I log in	Technical Support
E3	The service is very good, keep it up	Feedback
E4	Can you add dark mode feature?	Feedback
E5	Just saying hello	Others

### Step 2: Zero-shot Prompt (NO EXAMPLE)

Classify the following customer email into one of these categories:  
Billing, Technical Support, Feedback, Others.

Email: "I was charged twice for my last bill"

Classify the following customer email into one of these categories:  
Billing, Technical Support, Feedback, Others.

Email: "I was charged twice for my last bill"

Category: Billing

### Observation:

The model correctly classified the email without any examples.

### Step 3: One-shot Prompt (ONE EXAMPLE):

Example:

Email: "My internet is not working"

Category: Technical Support

Now classify the following email into  
Billing, Technical Support, Feedback, or Others.

Email: "I was charged twice for my last bill"

Example:  
Email: "My internet is not working"  
Category: Technical Support

Now classify the following email into  
Billing, Technical Support, Feedback, or Others.

Email: "I was charged twice for my last bill"

Category: Billing

### Observation:

Providing one example improved clarity.

#### **Step 4: Few-shot Prompt :**

Example 1:

Email: "My internet is not working"

Category: Technical Support

Example 2:

Email: "Thank you for great service"

Category: Feedback

Example 3:

Email: "I was charged extra this month"

Category: Billing

Now classify the following email:

Email: "I was charged twice for my last bill"

Example 1:  
Email: "My internet is not working"  
Category: Technical Support

Example 2:  
Email: "Thank you for great service"  
Category: Feedback

Example 3:  
Email: "I was charged extra this month"  
Category: Billing

Now classify the following email:  
Email: "I was charged twice for my last bill"

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Category: Billing⤵

**Observation:**

Few-shot prompting gave the most confident and accurate output.

## Problem Statement 2: Intent Classification for Chatbot Queries

Query ID	User Query	Intent
Q1	I forgot my account password	Account Issue
Q2	Where is my order right now?	Order Status
Q3	Does this laptop support Windows 11?	Product Inquiry
Q4	How can I contact customer care?	General Question
Q5	My account is locked	Account Issue
Q6	When will my product be delivered?	Order Status

## 2. Zero-shot Prompting

### Prompt:

Classify the following user query into one of these intents:  
Account Issue, Order Status, Product Inquiry, General Question.

Query: "Where is my order right now?"

Classify the following user query into one of these intents:  
Account Issue, Order Status, Product Inquiry, General Question.

Query: "Where is my order right now?"

**Intent: Order Status**

### 3. One-shot Prompting

**Prompt:**

Example:

Query: "I forgot my account password"

Intent: Account Issue

Now classify the following query:

Query: "Does this laptop support Windows 11?"

Example:

Query: "I forgot my account password"

Intent: Account Issue

Now classify the following query:

Query: "Does this laptop support Windows 11?"

**Intent: Product Inquiry**

### 4. Few-shot Prompting

**Prompt:**

Example 1:

Query: "My account is locked"

Intent: Account Issue

Example 2:

Query: "When will my order arrive?"

Intent: Order Status

Example 3:

Query: "Does this phone support 5G?"

Intent: Product Inquiry

Example 4:

Query: "How do I contact customer care?"

Intent: General Question

Now classify the following query:

Query: "Where is my order right now?"

The screenshot shows a dark-themed mobile application interface. At the bottom left, there is a button labeled "Intent: Order Status". In the center, there is a downward-pointing arrow inside a circle. On the right side, there is a large, semi-transparent rounded rectangle containing four examples, each with its query, intent, and a small icon (a square with a dot) followed by a delete symbol (a circle with a diagonal line).

Example 1:  
Query: "My account is locked"  
Intent: Account Issue

Example 2:  
Query: "When will my order arrive?"  
Intent: Order Status

Example 3:  
Query: "Does this phone support 5G?"  
Intent: Product Inquiry

Example 4:  
Query: "How do I contact customer care?"  
Intent: General Question

Now classify the following query:  
Query: "Where is my order right now?"

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### Observation:

**Zero-shot** works but may be slightly inconsistent.

**One-shot** improves understanding of intent categories.

**Few-shot** gives the most accurate and confident results.

### **Problem Statement 3: Student Feedback Analysis**

#### **a) Zero-shot Prompt**

Classify the following student feedback as Positive, Negative, or Neutral.

Feedback: "The course content was very helpful and well explained."

Classify the following student feedback as Positive, Negative, or Neutral.

Feedback: "The course content was very helpful and well explained."

Sentiment: Positive

#### **b) One-shot Prompt**

Example:

Feedback: "The lectures were boring and confusing."

Sentiment: Negative

Now classify the following feedback:

Feedback: "The instructor explained concepts clearly."

Example:

Feedback: "The lectures were boring and confusing."

Sentiment: Negative

Now classify the following feedback:

Feedback: "The instructor explained concepts clearly."

Sentiment: Positive

### c) Few-shot Prompt

Example 1:

Feedback: "The classes were engaging and informative."

Sentiment: Positive

Example 2:

Feedback: "The syllabus is okay but needs improvement."

Sentiment: Neutral

Example 3:

Feedback: "The course pace was too fast."

Sentiment: Negative

Now classify the following feedback:

Feedback: "The assignments were manageable and useful."

Example 1:  
Feedback: "The classes were engaging and informative."  
Sentiment: Positive

Example 2:  
Feedback: "The syllabus is okay but needs improvement."  
Sentiment: Neutral

Example 3:  
Feedback: "The course pace was too fast."  
Sentiment: Negative

Now classify the following feedback:  
Feedback: "The assignments were manageable and useful."

Sentiment: Positive

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#### Observation:

Providing examples helps the model better understand tone and context, leading to more accurate sentiment classification.

## Problem Statement 4: Course Recommendation System

### a) Zero-shot Prompt

Classify the following learner query as Beginner, Intermediate, or Advanced.

Query: "I am new to programming and want to learn Python."

The screenshot shows a dark-themed AI interface. A central input field contains the text: "Classify the following learner query as Beginner, Intermediate, or Advanced." Below this, another input field contains the query: "Query: 'I am new to programming and want to learn Python.'". At the bottom left, there is a "Level" section with the text "Level: Beginner" and a row of small icons. The entire interface has rounded corners and a minimalist design.

### b) One-shot Prompt

Example:

Query: "I have never coded before"

Level: Beginner

Now classify the following query:

Query: "I know basics of Java and want to learn Spring Boot."

The screenshot shows a dark-themed AI interface. It displays an example query and its classification: "Example: Query: 'I have never coded before' Level: Beginner". Below this, it asks the user to "Now classify the following query:" followed by the same query: "Query: 'I know basics of Java and want to learn Spring Boot.'". At the bottom left, there is a "Level" section with the text "Level: Intermediate" and a row of small icons. The interface has rounded corners and a minimalist design.

### c) Few-shot Prompt

Example 1:

Query: "I am new to programming"

Level: Beginner

Example 2:

Query: "I understand OOP concepts"

Level: Intermediate

Example 3:

Query: "I want to master system design and algorithms"

Level: Advanced

Now classify the following query:

Query: "I know basics of Java and want to learn Spring Boot."

Example 1:  
Query: "I am new to programming"  
Level: Beginner

Example 2:  
Query: "I understand OOP concepts"  
Level: Intermediate

Example 3:  
Query: "I want to master system design and algorithms"  
Level: Advanced

Now classify the following query:  
Query: "I know basics of Java and want to learn Spring Boot."

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Level: Intermediate

### d) Discussion

Few-shot prompting improves recommendation quality by giving clearer boundaries between skill levels.

## Problem Statement 5: Social Media Post Moderation

### a) Zero-shot Prompt

Classify the following social media post as Acceptable, Offensive, or Spam.

Post: "Click this link to win free prizes now!"

Classify the following social media post as Acceptable, Offensive, or Spam.

Post: "Click this link to win free prizes now!"

Category: Spam

### b) One-shot Prompt

Example:

Post: "Buy followers instantly!"

Category: Spam

Now classify the following post:

Post: "Click this link to win free prizes now!"

Example:

Post: "Buy followers instantly!"

Category: Spam

Now classify the following post:

Post: "Click this link to win free prizes now!"

Category: Spam

### c) Few-shot Prompt

Example 1:

Post: "This product is amazing!"

Category: Acceptable

Example 2:

Post: "You are useless and stupid"

Category: Offensive

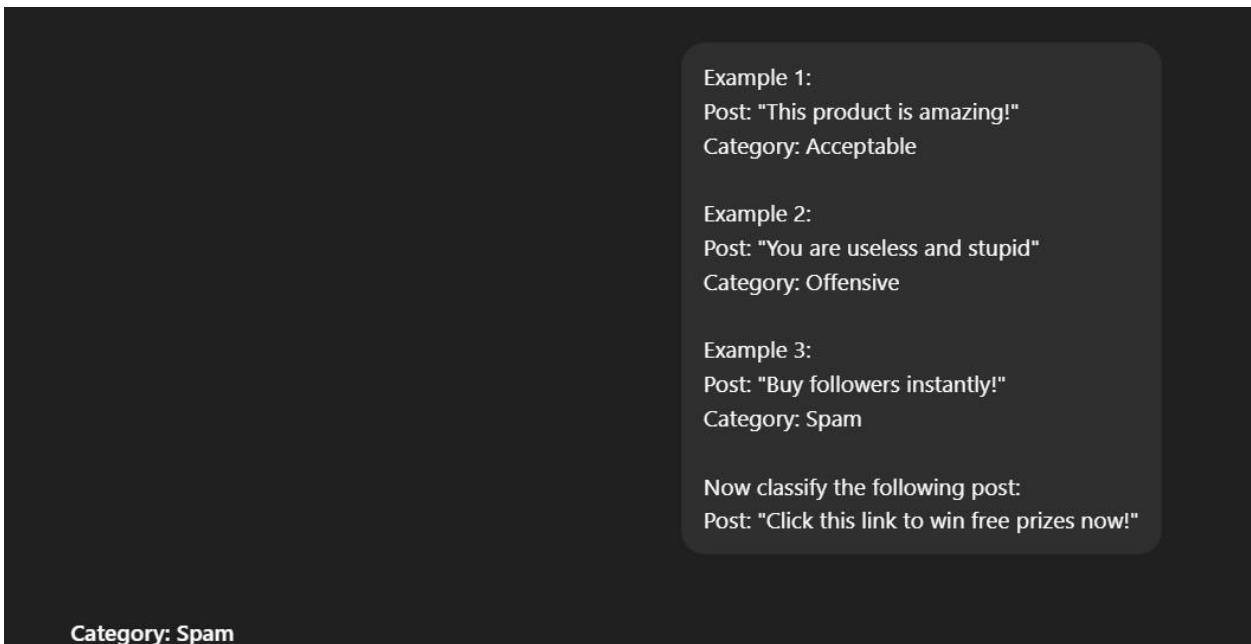
Example 3:

Post: "Buy followers instantly!"

Category: Spam

Now classify the following post:

Post: "Click this link to win free prizes now!"



## d) Explanation

Zero-shot prompting can struggle with slang, sarcasm, or hidden spam, whereas examples help the model understand subtle patterns.