

# AI-ASSISTANT CODING

## ASSIGNMENT 4.1

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BATCH 27

### Problem Statement 1: Customer Email Classification

#### Task 1: Zero-Shot Prompting

**Problem Number:** 1.1

**Prompt:**

Classify a customer email into Billing, Technical Support, Feedback, or Others without using examples.

**Code (Prompt Used):**

Classify the following customer email into one of these categories:

Billing, Technical Support, Feedback, Others.

Email: "The app crashes whenever I try to log in."

**Output:**

Technical Support

**Explanation:**

The model correctly identifies that the email describes a technical issue related to application usage.

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#### Task 2: One-Shot Prompting

**Problem Number:** 1.2

**Prompt:**

Use one labeled email example to guide classification.

**Code (Prompt Used):**

Example:

Email: "I was charged twice for my subscription."

Category: Billing

Now classify the following email:

Email: "My invoice shows an incorrect amount."

**Output:**

Billing

**Explanation:**

Providing one example improves classification accuracy by giving context to the model.

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**Task 3: Few-Shot Prompting**

**Problem Number:** 1.3

**Prompt:**

Use multiple labeled email examples to improve classification.

**Code (Prompt Used):**

Example 1:

Email: "The app crashes on startup."

Category: Technical Support

Example 2:

Email: "I love the new dashboard design."

Category: Feedback

Example 3:

Email: "I was charged twice for my subscription."

Category: Billing

Now classify the following email:

Email: "What are your office working hours?"

**Output:**

Others

**Explanation:**

Few-shot prompting gives the model clear category boundaries, resulting in the most accurate output.

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**Problem Statement 2: Intent Classification for Chatbot Queries**

**Task 1: Zero-Shot Prompting**

**Problem Number:** 2.1

**Prompt:**

Classify chatbot queries into Account Issue, Order Status, Product Inquiry, or General Question.

**Code (Prompt Used):**

Classify the following query into one of these intents:

Account Issue, Order Status, Product Inquiry, General Question.

Query: "Where is my order?"

**Output:**

Order Status

**Explanation:**

The model correctly recognizes the query as related to order tracking.

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**Task 2: One-Shot Prompting****Problem Number:** 2.2**Prompt:**

Provide one labeled example before classification.

**Code (Prompt Used):**

Example:

Query: "I forgot my password."

Intent: Account Issue

Now classify the following query:

Query: "My account was locked after multiple attempts."

**Output:**

Account Issue

**Explanation:**

The example helps the model understand similar account-related problems.

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**Task 3: Few-Shot Prompting****Problem Number:** 2.3**Prompt:**

Use multiple labeled examples to guide intent classification.

**Code (Prompt Used):**

Example 1:

Query: "Where is my order?"

Intent: Order Status

Example 2:

Query: "Does this phone support 5G?"

Intent: Product Inquiry

Example 3:

Query: "I cannot log into my account."

Intent: Account Issue

Now classify:

Query: "What are your customer support hours?"

**Output:**

General Question

**Explanation:**

Few-shot prompting ensures consistent intent mapping.

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

#### **Task 1: Zero-Shot Prompting**

**Problem Number:** 3.1

**Prompt:**

Classify student feedback sentiment.

**Code (Prompt Used):**

Classify the sentiment as Positive, Negative, or Neutral.

Feedback: "The lectures were informative and engaging."

**Output:**

Positive

**Explanation:**

Positive sentiment is detected from appreciative language.

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## **Task 2: One-Shot Prompting**

**Problem Number:** 3.2

**Code (Prompt Used):**

Example:

Feedback: "The course content was excellent."

Sentiment: Positive

Now classify:

Feedback: "The exams were too difficult."

**Output:**

Negative

**Explanation:**

The example helps identify dissatisfaction in feedback.

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## **Task 3: Few-Shot Prompting**

**Problem Number:** 3.3

**Code (Prompt Used):**

Example 1:

Feedback: "Clear explanations by professor."

Sentiment: Positive

Example 2:

Feedback: "Syllabus is outdated."

Sentiment: Negative

Example 3:

Feedback: "Classes were conducted as scheduled."

Sentiment: Neutral

Now classify:

Feedback: "The course met my expectations."

**Output:**

Positive

**Explanation:**

Multiple examples improve sentiment classification accuracy.

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**Problem Statement 4: Course Recommendation System**

**Task 1: Zero-Shot Prompting**

**Problem Number:** 4.1

**Code (Prompt Used):**

Classify the learner query into Beginner, Intermediate, or Advanced.

Query: "I want to learn Python from scratch."

**Output:**

Beginner

**Explanation:**

The query indicates no prior knowledge.

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**Task 2: One-Shot Prompting**

**Problem Number:** 4.2

**Code (Prompt Used):**

Example:

Query: "I am new to programming."

Level: Beginner

Now classify:

Query: "I know Python basics and want to build projects."

**Output:**

Intermediate

**Explanation:**

The example clarifies learning level progression.

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### **Task 3: Few-Shot Prompting**

**Problem Number:** 4.3

**Code (Prompt Used):**

Example 1:

Query: "No coding experience."

Level: Beginner

Example 2:

Query: "Strong understanding of data structures."

Level: Advanced

Example 3:

Query: "Know basics and want to improve."

Level: Intermediate

Now classify:

Query: "I want to master system design and optimization."

**Output:**

Advanced

**Explanation:**

Few-shot prompting enables precise level identification.

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### **Problem Statement 5: Social Media Post Moderation**

#### **Task 1: Zero-Shot Prompting**

**Problem Number:** 5.1

**Code (Prompt Used):**

Classify the post as Acceptable, Offensive, or Spam.

Post: "Buy cheap followers now!"

**Output:**

Spam

**Explanation:**

The post promotes misleading content.

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**Task 2: One-Shot Prompting**

**Problem Number:** 5.2

**Code (Prompt Used):**

Example:

Post: "Get rich quickly!"

Category: Spam

Now classify:

Post: "You are an idiot."

**Output:**

Offensive

**Explanation:**

The example distinguishes abusive language from spam.

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**Task 3: Few-Shot Prompting**

**Problem Number:** 5.3

**Code (Prompt Used):**

Example 1:

Post: "Free followers link"

Category: Spam

Example 2:

Post: "You are stupid"

Category: Offensive

Example 3:

Post: "Have a great day everyone"

Category: Acceptable



Now classify:

Post: "Click here to win a free phone!"

**Output:**

Spam

**Explanation:**

Few-shot prompting produces the most reliable moderation result.

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### **Final Conclusion**

Few-shot prompting consistently outperforms zero-shot and one-shot methods by providing clearer context and better classification accuracy.