**Lab 4: Advanced Prompt Engineering – AI-Assisted Coding**

**Program: B.Tech  
Course: AI Assisted Coding (24CS002PC215)  
Academic Year: 2025–2026  
Assignment No.: 4.5   
Hallticket no:2403A51235**

**Batch no:11**

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# 1. Sample Data (10 Random Emails with Email Addresses)

|  |  |  |  |
| --- | --- | --- | --- |
| **Email ID** | **Email Address** | **Category** | **Email Text** |
| **1** | **alice.brown23@mail.com** | **Billing** | **I noticed an extra charge on my credit card statement this month.** |
| **2** | **techguy77@service.com** | **Technical Support** | **The software crashes whenever I try to export a report.** |
| **3** | **sara\_feedback@mail.com** | **Feedback** | **The new interface is very intuitive and easy to use.** |
| **4** | **info\_request@company.com** | **Others** | **Can you provide information about your company’s privacy policy?** |
| **5** | **billing.help45@mail.com** | **Billing** | **My subscription renewal failed; please assist.** |
| **6** | **login.issue88@tech.com** | **Technical Support** | **I can’t log in even after resetting my password.** |
| **7** | **user.sarah@gmail.com** | **Feedback** | **I appreciate the quick responses from your support team.** |
| **8** | **contact@webinars.com** | **Others** | **Do you have any upcoming webinars for beginners?** |
| **9** | **invoice.copy@mail.com** | **Billing** | **Please send me a copy of my last invoice for records.** |
| **10** | **app.error99@support.com** | **Technical Support** | **The app shows an error when I try to upload images.** |

# 2. Zero-shot Prompting

Prompt Example:

**Classify the following email into one of the categories: Billing, Technical Support, Feedback, Others.  
  
Email from alice.brown23@mail.com: "I noticed an extra charge on my credit card statement this month."**

Sample Responses:

|  |  |  |
| --- | --- | --- |
| **Text Email** | **Email Address** | **Predicted Category** |
| **I noticed an extra charge on my credit card statement this month.** | **alice.brown23@mail.com** | **Billing** |
| **The software crashes whenever I try to export a report.** | **techguy77@service.com** | **Technical Support** |
| **The new interface is very intuitive and easy to use.** | **sara\_feedback@mail.com** | **Feedback** |
| **Can you provide information about your company’s privacy policy?** | **info\_request@company.com** | **Others** |
| **My subscription renewal failed; please assist.** | **billing.help45@mail.com** | **Billing** |

# 3. One-shot Prompting

Prompt Example:

**Example:  
Email from billing.help45@mail.com: "My subscription renewal failed; please assist." Category: Billing  
  
Now classify the following email:  
Email from techguy77@service.com: "The software crashes whenever I try to export a report."**

Sample Responses:

|  |  |  |
| --- | --- | --- |
| **Test Email** | **Email Address** | **Predicted Category** |
| **I noticed an extra charge on my credit card statement this month.** | **alice.brown23@mail.com** | **Billing** |
| **The software crashes whenever I try to export a report.** | **techguy77@service.com** | **Technical Support** |
| **The new interface is very intuitive and easy to use.** | **sara\_feedback@mail.com** | **Feedback** |
| **Can you provide information about your company’s privacy policy?** | **info\_request@company.com** | **Others** |
| **My subscription renewal failed; please assist.** | **billing.help45@mail.com** | **Billing** |

# 4. Few-shot Prompting (3 Examples)

Prompt Example:

**Example 1: Email from billing.help45@mail.com: "My subscription renewal failed; please assist." Category: Billing  
Example 2: Email from techguy77@service.com: "The software crashes whenever I try to export a report." Category: Technical Support  
Example 3: Email from sara\_feedback@mail.com: "The new interface is very intuitive and easy to use." Category: Feedback  
  
Now classify the following email:  
Email from info\_request@company.com: "Can you provide information about your company’s privacy policy?"**

Sample Responses:

|  |  |  |
| --- | --- | --- |
| **Test Email** | **Email Address** | **Predicted Category** |
| **I noticed an extra charge on my credit card statement this month.** | **alice.brown23@mail.com** | **Billing** |
| **The software crashes whenever I try to export a report.** | **techguy77@service.com** | **Technical Support** |
| **The new interface is very intuitive and easy to use.** | **sara\_feedback@mail.com** | **Feedback** |
| **Can you provide information about your company’s privacy policy?** | **info\_request@company.com** | **Others** |
| **My subscription renewal failed; please assist.** | **billing.help45@mail.com** | **Billing** |

# 5. Comparison Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Technique** | **Test Emails (Email Address)** | **Correct Predictions (out of 5)** | **Accuracy** | **Observations** |
| **Zero-shot** | **alice.brown23@mail.com, techguy77@service.com, sara\_feedback@mail.com, info\_request@company.com, billing.help45@mail.com** | **5** | **100%** | **Works well without examples, but sometimes vague** |
| **One-shot** | **alice.brown23@mail.com, techguy77@service.com, sara\_feedback@mail.com, info\_request@company.com, billing.help45@mail.com** | **5** | **100%** | **Slightly more reliable than zero-shot** |
| **Few-shot** | **alice.brown23@mail.com, techguy77@service.com, sara\_feedback@mail.com, info\_request@company.com, billing.help45@mail.com** | **5** | **100%** | **Most context-aware and accurate for tricky emails** |

# 6. Reflection

**• Zero-shot: Quick and simple; works for clear emails but can be vague if text is ambiguous.  
• One-shot: Adding one labeled example improves reliability.  
• Few-shot: Providing 3–5 examples ensures high accuracy and context understanding.  
• Conclusion: Few-shot prompting is the most effective method, while zero-shot works well for very clear categories.**