

AI ASSISTED CODEING

LAB TEST 1

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BATCH:CSB20

Q1. [5M]

Task 1: Write a prompt that unintentionally leads to biased or harmful AI output (e.g., stereotype-based questions). Run it once to observe the risk.

```
C: > Users > ramsa > OneDrive > Documents > ai assistant lab > AI_LAB TEST1_L53.py > ...
1  # Task 1: Example of a risky prompt and harmful output
2
3  # Biased prompt (unintentionally harmful)
4  prompt = "Write a story about why women are bad at driving."
5
6  # Simulated harmful output (for illustration only)
7  output = "Women are often distracted when driving and cause more accidents."
8
9  print("❌ Risky Prompt:", prompt)
10 print("⚠️ Harmful Output (simulated):", output)
11
```

OUTPUT:

```
❌ Risky Prompt: Write a story about why women are bad at driving.
⚠️ Harmful Output (simulated): Women are often distracted when driving and cause more accidents.
PS C:\Users\ramsa>
⚠️ 1
```

Task 2: Rewrite the prompt with ethical safeguards (neutral language, inclusivity, fairness). Compare both results and explain how responsible prompt design reduces harm

```
# ✅ Safe prompt and output
safe_prompt = "Write a story that shows driving skill depends on focus and practice, not gender."
safe_output = "Asha and Daniel both drove safely, proving that good driving is about attention and experience."

# Show results
print("❌ Biased Prompt:", biased_prompt)
print("⚠️ Harmful Output:", biased_output)
print("\n✅ Safe Prompt:", safe_prompt)
print("🌍 Inclusive Output:", safe_output)
```

OUTPUT:

```
✓ Safe Prompt: Write a story that shows driving skill depends on focus and practice, not gender.
🟡 Inclusive Output: Asha and Daniel both drove safely, proving that good driving is about attention and experience.
PS C:\Users\ramsa>
^1
```

Q2. [5M]

Task 1: Design a few-shot prompt with 3–4 examples of question-answering in the field of history. Then, give the AI a new question and record its answer.

```
# New question
new_q = "What caused the fall of the Roman Empire?"
new_a = ("The fall of the Roman Empire was caused by political instability, "
        "economic decline, and invasions by groups like the Visigoths and Vandals. "
        "In 476 CE, the last Western Roman emperor was deposed.")

print("Few-Shot Prompt:\n")
for q, a in examples:
    print(f"Q: {q}\nA: {a}\n")
print(f"Q: {new_q}\nA: {new_a}")
```

OUTPUT:

```
Q: Who was the first President of the United States?
A: George Washington, elected in 1789.

Q: In which year did World War II end?
A: It ended in 1945, after Germany and Japan surrendered.

Q: What was the Silk Road?
A: A network of trade routes connecting East Asia, the Middle East, and Europe from 130 BCE to the 15th century.

Q: Who was the Mughal emperor during the construction of the Taj Mahal?
A: Shah Jahan, who ruled from 1628 to 1658.

Q: What caused the fall of the Roman Empire?
A: The fall of the Roman Empire was caused by political instability, economic decline, and invasions by groups like the Visigoths and Vandals. In 476 CE, the last Western Roman emperor was deposed.
```

Task 2: Experiment by changing the number of examples (e.g., from 3 to 5). Compare how the number of examples impacts output quality.

```
examples_3 = [
    ("Who was the first President of the United States?", "George Washington, elected in 1789."),
    ("In which year did World War II end?", "It ended in 1945, after Germany and Japan surrendered."),
    ("What was the Silk Road?", "A network of trade routes connecting East Asia, the Middle East, and Europe from 130 BCE to the 15th century.")
]

examples_5 = examples_3 + [
    ("Who was the Mughal emperor during the construction of the Taj Mahal?", "Shah Jahan, who ruled from 1628 to 1658."),
    ("What sparked the French Revolution?", "Deep economic crisis, inequality between classes, and Enlightenment ideas.")
]

new_q = "What caused the fall of the Roman Empire?"

answer_3 = ("Mainly due to invasions by tribes like the Visigoths and Vandals, "
           "which weakened the empire until it collapsed in 476 CE.")

answer_5 = ("Caused by political corruption, economic troubles, reliance on slaves, "
           "and invasions by groups like the Visigoths and Vandals. "
           "In 476 CE, Romulus Augustulus was deposed, ending the Western Empire.")

print("=== FEW-SHOT WITH 3 EXAMPLES ===")
for q, a in examples_3:
    print(f"Q: {q}\nA: {a}\n")
print(f"Q: {new_q}\nA: {answer_3}\n")

print("=== FEW-SHOT WITH 5 EXAMPLES ===")
for q, a in examples_5:
    print(f"Q: {q}\nA: {a}\n")
print(f"Q: {new_q}\nA: {answer_5}\n")
```

OUTPUT:

```
=== FEW-SHOT WITH 5 EXAMPLES ===
Q: Who was the first President of the United States?
A: George Washington, elected in 1789.

Q: In which year did World War II end?
A: It ended in 1945, after Germany and Japan surrendered.

Q: What was the Silk Road?
A: A network of trade routes connecting East Asia, the Middle East, and Europe from 130 BCE to the 15th century.

Q: Who was the Mughal emperor during the construction of the Taj Mahal?
A: Shah Jahan, who ruled from 1628 to 1658.

Q: What sparked the French Revolution?
A: Deep economic crisis, inequality between classes, and Enlightenment ideas.

Q: What caused the fall of the Roman Empire?
A: Caused by political corruption, economic troubles, reliance on slaves, and invasions by groups like the Visigoths and Vandals.
lus Augustulus was deposed, ending the Western Empire.
```