Final project template: Using Generative AI Tools to Debug and Fix Software Bugs

## Step 1: Analyze the codebase using a generative AI tool

### 1.1. Bug identification

List the bugs or problematic code sections identified by the AI tool.

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Provide explanations or reasoning provided by the generative AI tool for each identified issue.

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Provide a brief summary (2–3 sentences) describing the overall findings from the AI analysis.

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Step 2: Validate and prioritize the identified issues

### 2.1. Bug validation table

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| Bug | Confirmed (Yes/No) | Priority (High/Med/Low) | Justification |
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### 2.2. Dismissed issues and justification

List any issues flagged by the AI that you chose not to fix, along with a short explanation.

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## Step 3: Generate and implement bug fixes using the AI tool

3.1. AI code suggestions and final fixes

Paste the code suggestions from the AI and explain any modifications you made before implementation.

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| **Bug description** | **AI code suggestion** | **Modifications made (if any)** | **Final fix (code snippet)** |
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3.2. Fix Explanation

Provide a brief explanation (2–3 sentences) for each fix, describing how the solution addresses the bug.

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## Step 4: Test the fixed codebase

4.1. Test results

Paste output logs or test run results.

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Include screenshots if applicable.

4.2: New test cases (if created)

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| **Test name** | **What it checks** | **Expected result** | **Actual result** |
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4.3. Testing summary

Briefly describe your testing process and results. Mention any challenges encountered.

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## Step 5: Document the debugging and fixing process

5.1. Project report

Write a concise report (1–2 pages) that includes:

* How you used the generative AI tool at each step
* Your decision-making process
* Key challenges, benefits, or limitations you observed

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