

C400 Course

Performance Issue Report Analysis

Student Name: _____

Student ID: _____

Time to Complete (minutes): _____

Assigned Project: Apache Commons Collections

Assigned Issue Tickets:

**COLLECTIONS-534, COLLECTIONS-406, COLLECTIONS-407, COLLECTIONS-408,
COLLECTIONS-409**

Instructions: Apache Commons Collections is a project that builds upon the Java Collections Framework by providing new interfaces, implementations, and utilities for common data structures. It aims to provide reusable components for common programming tasks. Your task is to analyze five performance-related issue tickets from this project to understand how performance problems are identified, discussed, and resolved in a real-world setting. You have been assigned five specific issue tickets to analyze. For each ticket, please complete the analysis form on the following pages. Your goal is to act as a software quality analyst, using the provided evidence within the ticket to understand the return on investment (ROI) and other factors involved in fixing a real-world performance bug.

Issue Ticket Analysis: **COLLECTIONS-534**

1. **Performance Problem Summary** *In 1-3 sentences, what is the core performance problem described in this issue ticket?*

2. **Profiling Data** *Quote the exact sentence(s) from the ticket's description or comments that contain performance-related data or observations.*

3. **Return (R)** *How much time (or %) was the performance improved? Extract or calculate this from the profiling data.*

4. **Investment (I)** *How many unique developers participated, and what is the total number of comments? • Unique Developers: _____*

5. **Analysis of Other Quality Attributes** *Were other quality attributes (e.g., maintainability, readability) mentioned? If so, provide the quote as evidence.*

- Attribute(s) Mentioned: _____
- Evidence (Quote):

6. **ROI Assessment** *Based on your findings for Return (R) and Investment (I), would you classify the ROI for fixing this issue as high or low? Briefly explain why.*

7. **Task Feedback** *What was the biggest challenge you faced while analyzing this ticket? (e.g., difficulty finding data, unclear discussions, etc.)*

Issue Ticket Analysis: **COLLECTIONS-406**

1. **Performance Problem Summary** *In 1-3 sentences, what is the core performance problem described in this issue ticket?*

2. **Profiling Data** *Quote the exact sentence(s) from the ticket's description or comments that contain performance-related data or observations.*

3. **Return (R)** *How much time (or %) was the performance improved? Extract or calculate this from the profiling data.*

4. **Investment (I)** *How many unique developers participated, and what is the total number of comments? • Unique Developers: _____*

5. **Analysis of Other Quality Attributes** *Were other quality attributes (e.g., maintainability, readability) mentioned? If so, provide the quote as evidence.*

- Attribute(s) Mentioned: _____
- Evidence (Quote):

6. **ROI Assessment** *Based on your findings for Return (R) and Investment (I), would you classify the ROI for fixing this issue as high or low? Briefly explain why.*

7. **Task Feedback** *What was the biggest challenge you faced while analyzing this ticket? (e.g., difficulty finding data, unclear discussions, etc.)*

Issue Ticket Analysis: **COLLECTIONS-407**

1. **Performance Problem Summary** *In 1-3 sentences, what is the core performance problem described in this issue ticket?*

2. **Profiling Data** *Quote the exact sentence(s) from the ticket's description or comments that contain performance-related data or observations.*

3. **Return (R)** *How much time (or %) was the performance improved? Extract or calculate this from the profiling data.*

4. **Investment (I)** *How many unique developers participated, and what is the total number of comments? • Unique Developers: _____*

5. **Analysis of Other Quality Attributes** *Were other quality attributes (e.g., maintainability, readability) mentioned? If so, provide the quote as evidence.*

- Attribute(s) Mentioned: _____
- Evidence (Quote):

6. **ROI Assessment** *Based on your findings for Return (R) and Investment (I), would you classify the ROI for fixing this issue as high or low? Briefly explain why.*

7. **Task Feedback** *What was the biggest challenge you faced while analyzing this ticket? (e.g., difficulty finding data, unclear discussions, etc.)*

Issue Ticket Analysis: **COLLECTIONS-408**

1. **Performance Problem Summary** *In 1-3 sentences, what is the core performance problem described in this issue ticket?*

2. **Profiling Data** *Quote the exact sentence(s) from the ticket's description or comments that contain performance-related data or observations.*

3. **Return (R)** *How much time (or %) was the performance improved? Extract or calculate this from the profiling data.*

4. **Investment (I)** *How many unique developers participated, and what is the total number of comments? • Unique Developers: _____*

5. **Analysis of Other Quality Attributes** *Were other quality attributes (e.g., maintainability, readability) mentioned? If so, provide the quote as evidence.*

- Attribute(s) Mentioned: _____
- Evidence (Quote):

6. **ROI Assessment** *Based on your findings for Return (R) and Investment (I), would you classify the ROI for fixing this issue as high or low? Briefly explain why.*

7. **Task Feedback** *What was the biggest challenge you faced while analyzing this ticket? (e.g., difficulty finding data, unclear discussions, etc.)*

Issue Ticket Analysis: **COLLECTIONS-409**

1. **Performance Problem Summary** *In 1-3 sentences, what is the core performance problem described in this issue ticket?*

2. **Profiling Data** *Quote the exact sentence(s) from the ticket's description or comments that contain performance-related data or observations.*

3. **Return (R)** *How much time (or %) was the performance improved? Extract or calculate this from the profiling data.*

4. **Investment (I)** *How many unique developers participated, and what is the total number of comments? • Unique Developers: _____*

5. **Analysis of Other Quality Attributes** *Were other quality attributes (e.g., maintainability, readability) mentioned? If so, provide the quote as evidence.*

- Attribute(s) Mentioned: _____
- Evidence (Quote):

6. **ROI Assessment** *Based on your findings for Return (R) and Investment (I), would you classify the ROI for fixing this issue as high or low? Briefly explain why.*

7. **Task Feedback** *What was the biggest challenge you faced while analyzing this ticket? (e.g., difficulty finding data, unclear discussions, etc.)*
