# **Lab Exercise 8-** **Pull Request Summary and Modernizing Legacy Code Using GitHub Copilot Chat**

**Lab Exercise: Pull Request Summary and Modernizing Legacy Code Using GitHub Copilot Chat**

**Objective:**

Learn how to:

1. **Generate a Pull Request (PR) summary** using **GitHub Copilot Chat**.
2. **Modernize legacy code** using **Copilot suggestions**.
3. **Commit and push updated code** to GitHub.

**Prerequisites:**

* **GitHub repository** with **legacy Java code**.
* **GitHub Copilot Chat** enabled in **VS Code**.
* **Basic Git knowledge** (forking, branching, PRs).

**Step 1: Clone and Set Up the Repository**

**1.1 Clone the Repository**

1. Store the repository URL in a chat variable:

#repo\_url = " https://github.com/hkshitesh/LegacyCode.git"

1. Ask Copilot:

/run git commands to clone #repo\_url and create a new branch "modernization"

Copilot will suggest:

git clone https://github.com/yourusername/legacy-java-project.git

cd legacy-java-project

git checkout -b modernization

**Step 2: Modernizing Legacy Code**

**3.1 Identify Outdated Code**

Ask Copilot:

Analyze the legacy Java code and suggest modern improvements

Copilot will detect issues like:

* **Old I/O handling** → Suggests try-with-resources.
* **Manual loops** → Suggests Java **Streams API**.
* **Deprecated APIs** → Suggests **modern replacements**.

**3.2 Apply Suggested Changes**

**Example: Updating File Handling**

Original (Legacy Code):

BufferedReader reader = new BufferedReader(new FileReader("file.txt"));

try {

String line;

while ((line = reader.readLine()) != null) {

System.out.println(line);

}

} finally {

reader.close();

}

Ask Copilot:

Refactor this file handling code using try-with-resources

Updated Code:

try (BufferedReader reader = new BufferedReader(new FileReader("file.txt"))) {

reader.lines().forEach(System.out::println);

} catch (IOException e) {

e.printStackTrace();

}

**Example: Updating Loops with Java Streams**

Original (Legacy Code):

List<String> names = Arrays.asList("Alice", "Bob", "Charlie");

List<String> upperCaseNames = new ArrayList<>();

for (String name : names) {

upperCaseNames.add(name.toUpperCase());

}

Ask Copilot:

Convert this loop into Java Streams

Updated Code:

List<String> upperCaseNames = names.stream()

.map(String::toUpperCase)

.collect(Collectors.toList());

**Step 4: Commit and Push Changes**

1. Ask Copilot:

/run git commands to commit and push changes to the modernization branch

Copilot will suggest:

git add .

git commit -m "Refactored legacy code to modern Java standards"

git push origin modernization

**Step 5: Create a Pull Request on GitHub**

1. Ask Copilot:

Generate a pull request message summarizing the modernization changes

1. Open GitHub and create a PR from modernization → main.
2. Paste Copilot's PR summary as the description.
3. Submit the PR for review.

**Conclusion**

* **Generated a Pull Request summary** using GitHub Copilot Chat.
* **Modernized legacy Java code** with Copilot's refactoring suggestions.
* **Committed and pushed changes** efficiently.
* **Created a Pull Request** for review.

By completing this exercise, you will **modernize a Java codebase** while learning **best practices for GitHub Pull Requests**!