

The AI tool I used for this mini project is the AI toolkit in VSCode (I believe it is called Agent Builder). In addition, I used Github CoPilot which was also present in VSCode.

Essentially, there is an autocomplete feature that helps me finish the code automatically. Hence, I have no screenshots of my interaction with AI.

It should be noted that I also have interactions with ChatGPT (GPT-5 mini) and Claude (Sonnet 4.5) to ask them to help double check my implementation and test files. However, these files are way too big to screenshot and put in here.

Here below, is an example screenshot of what I did. I just copied and pasted my implementation code and asked it to review and try to find bugs or where I can improve. This included syntax, efficiency, writing specifications, abstraction functions, thread-safety arguments and representation invariants.

The screenshot shows the Sonnet 4.5 interface. On the left, a sidebar displays 'Code implementation analysis' with a dropdown menu. Below it, a section titled 'Improved Version with Full Documentation' shows 'FSFTBuffer.java (Enhanced)' with a 'Code' tab selected. A preview window shows the Java code with annotations. A section titled 'Key Changes Made' lists '1. Fixed Critical Bug'. The code editor on the right shows the following Java code:

```
Instant oldestAccess = null;
long oldestOrder = Long.MAX_VALUE;

for (Map.Entry<String, Entry<B>> mapEntry : map.entrySet()) {
    Entry<B> entry = mapEntry.getValue();

    boolean isOlder = false;
    if (oldestAccess == null) {
        isOlder = true;
    } else if (entry.lastAccess.isBefore(oldestAccess)) {
        isOlder = true;
    } else if (entry.lastAccess.equals(oldestAccess) && entry.accessOrder < oldestOrder)
        isOlder = true;
    }

    if (isOlder) {
        oldestAccess = entry.lastAccess;
        oldestOrder = entry.accessOrder;
        lruKey = mapEntry.getKey();
    }
}

if (lruKey != null) {
    map.remove(lruKey);
}
}
```