

实验三

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分数比例：1:1

实验思路

选定一个开源 IDE 项目，确定一个软件需求 R，从该软件需求提出开始。

- (1) 明确提出需求 R 的文本，获取需求 R 的有关讨论文本；
- (2) 识别出实现需求 R 的代码；
- (3) 如果需求有变更，识别出需求变更：
 - a) 明确需求变更的文本；
 - b) 识别出与需求变更有关的代码；
- (4) 给出需求 R 的全生命周期的时间线。

实验过程

- (1) 选择 IDE 并确定一个软件需求 R

IDE 项目：托管在 github 上的 VS Code 开源代码

从 Pull Request 中选取一个，作为需求 R，选取的 PR 在下面介绍。

- (2) 编写 python 程序，从 github 上爬取上面这条 PR 的提出文本，截图如下：

Fix-72370 Opening large file when debugging freezes
#72747

可以将需求 R 理解为给软件添加新功能。

- (3) 利用 python 程序，从 github 上爬取需求 R 的有关讨论文本，讨论文本存放在 data/pr_conversation.txt.
- (4) 将第一次 commit 视为实现需求 R 的代码，同样可以爬取下来，存放在 0.txt 中。
部分截图如下：

```
model.tokenizeViewport(visibleRange.startLineNumber, visibleRange.endLineNumber);
for (let lineNumber = visibleRange.startLineNumber; lineNumber <= visibleRange.endLineNumber; ++lineNumber)
    const lineTokens = model.getLineTokens(lineNumber);
    const lineContent = model.getLineContent(lineNumber);
    for (let tokenIndex = 0, tokenCount = lineTokens.getCount(); tokenIndex < tokenCount; tokenIndex++)
        const tokenStartOffset = lineTokens.getStartOffset(tokenIndex);
        const tokenEndOffset = lineTokens.getEndOffset(tokenIndex);
        const tokenType = lineTokens.getStandardTokenType(tokenIndex);
        const tokenStr = lineContent.substring(tokenStartOffset, tokenEndOffset);
```

- (5) 需求变更共有两次：

①第一次变更：

R：为源码添加两个新的函数，实现新功能——>R1：为新添加的函数编写测试代码，用来确定正确性和必要性。

此次变更得到了允许，并且进行了实现。

变更的参与人员：isidorn（变更提出者）skrabhanjan（讨论者）

截图如下：

原需求的部分截图：

@rebornix and @isidorn , Here is the implementation of the showing only inline values of visible viewport to fix #72370.

Added two new functions , `tokenizeCompleteDocument` which will tokenize the complete document as per the same old behaviour , `tokenizeViewPort` which will only tokenize the visible viewport.

Used these two functions in `getWordToPositionsMap` as suggested.

变更后的需求，部分截图：

isidorn commented on 25 Apr

Contributor ...

Thanks for your PR. However currently we are wrapping our release which means we only take in a limited set of changes.

Due to that I am assigning this PR to may and I will review it next week.

Did you test this out? Is it possible to write some unit tests for this?

Why is the method `tokenizeWholeDocument` still needed? I thought we would only tokenize the viewport for optimization.

②第二次需求变更：

变更原因：原需求的实现代码遭到质疑，其中的一部分被证明是错误的，被驳回，最终只有一部分被合并到项目中。

变更结果：R2：只 merge 正确的代码，然后关闭该 PR。

截图如下：

isidorn commented on 24 Jun

Contributor ...

I have looked into this PR and decided not to merge it yet. Reasons being:

1. I believe the logic is still not clear, since you `tokenizeViewport` and than `tokenizeRange`. Even though those operations seem to be overlapping. There might be more flows in the logic.
2. I think you have followed the @rebornix instructions without having an overall understanding of the solution, which lead us to a complex approach

I might be wrong in which case I appologize, but I am still not convinced with this PR, and also not convinced we need it since no other user encountered this in 3 months.

skprabhanjan commented on 25 Jun

Author Contributor ...

@isidorn , That makes sense to me and thanks for the review :)

No problems from my side , I will close this PR but ready to work on it and change it if required :)

@rebornix , Thanks :)

(6) 需求 R 的全生命周期时间线：

