GAMBIT Extension for VSCode

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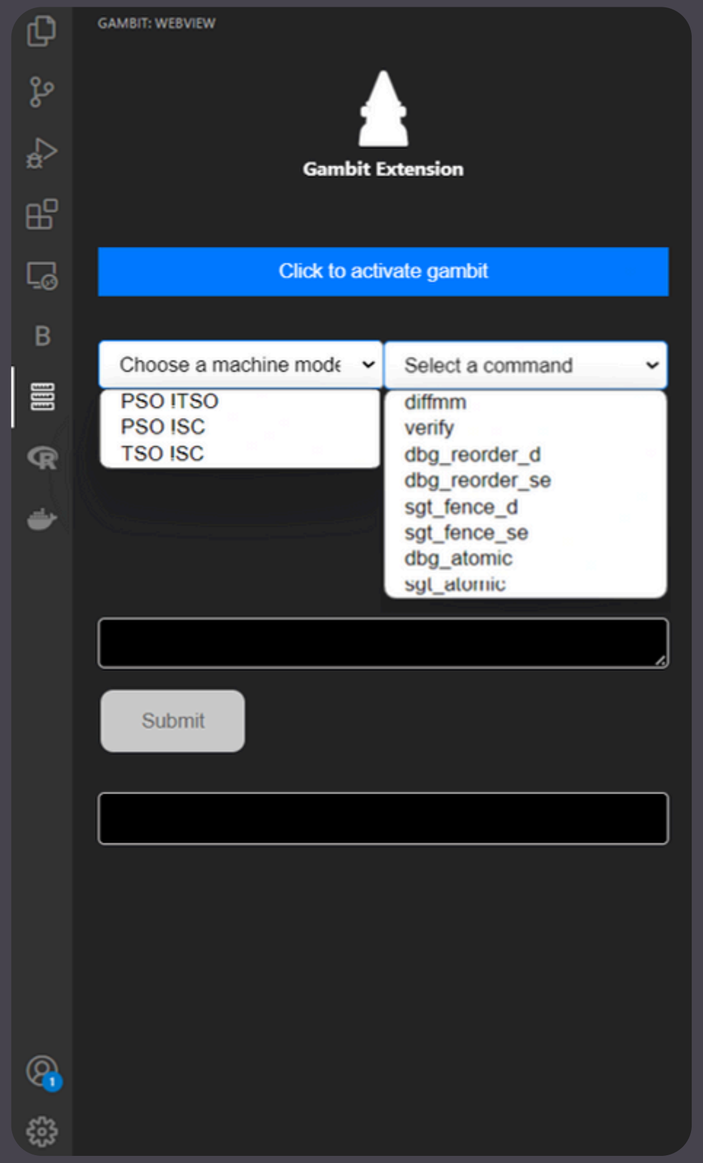
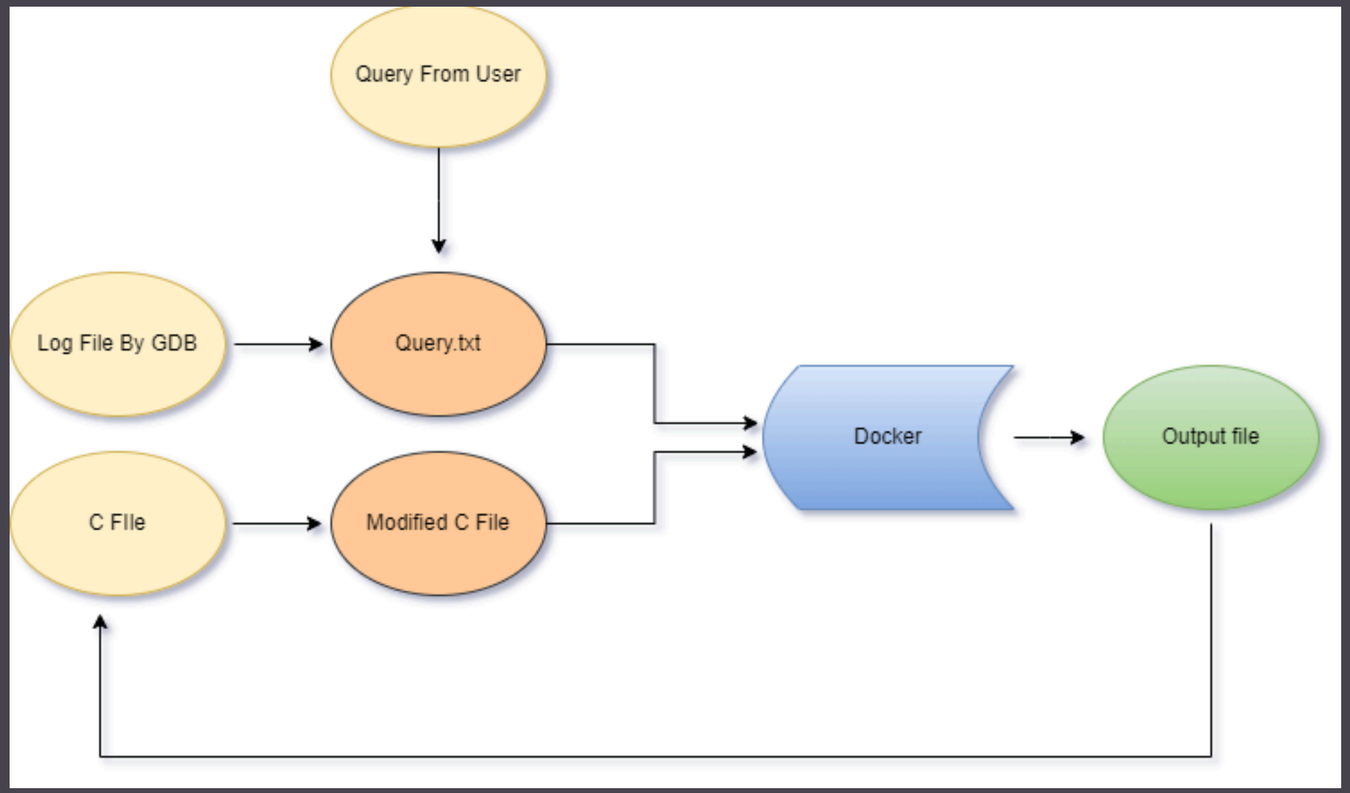


Introduction

- Debugging concurrent programs imposes certain new problems due to different memory models and interleaving among threads.

- This project offers a comprehensive set of tools for interactive debuggging of concurrent programs in VSCode.

Architecture



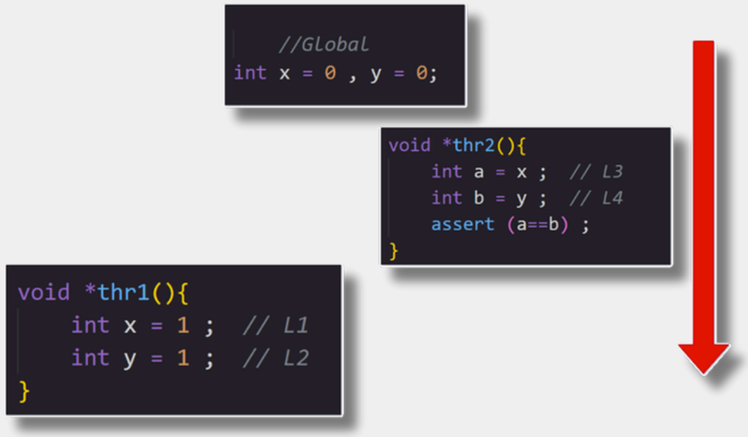
Example

Consider the C code shown alongside.

Will the assert statement at line no. 18 be violated?

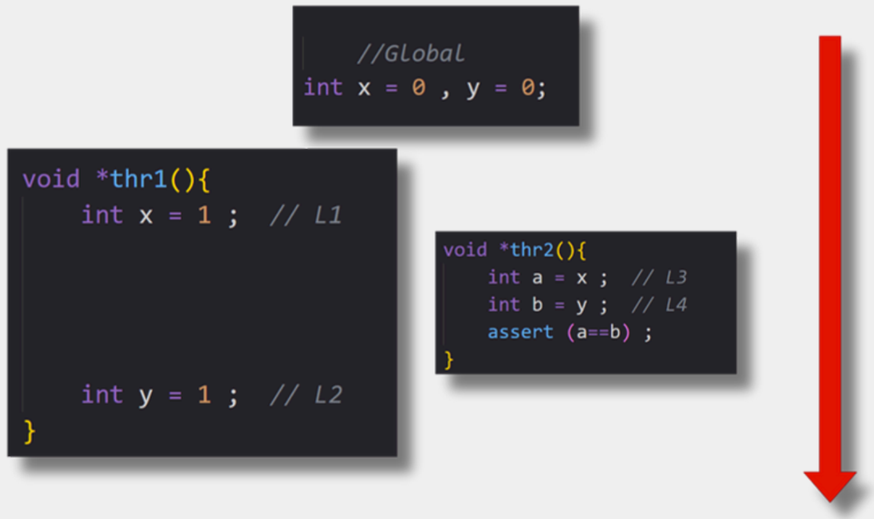
For the first interleaving the assert statement will not be violated.

```
 6  int x = 0 , y = 0;
 7
 8  // Thread 1
 9  void *thr1(){
10      x = 1;
11      y = 1;
12  }
13
14  // Thread 2
15  void *thr2(){
16      int a = x ;
17      int b = y ;
18      assert (a==b) ;
19  }
```



Contd.

However if the scheduler uses this interleaving the assert statement will fail. So how will we debug the code? Let’s dive in and use the extension to solve the problem 🙂



DEMONSTRATION

Thank You

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