Please generate a short comment in one sentence for the following function: {Code}

Figure 1: Code Prompt (Sun et al.)

The issue report is proposed before the code is committed to the codebase and can provide supplementary information for the code comments of the code. Please read the following issue, then based on the issue, please generate code comments for the code.
Issue: {Issue}
Code: {Code}

Figure 2: Code-Issue Prompt (No Retrieval)

The issue report is proposed before the code is commited to codebase and can provide supplementary information about the code to its code comments. Please read the following issue sentences searched from issue using the code, then generate code comments for the code.
Issue Sentences: {Issue Sentences}
Code: {Code}

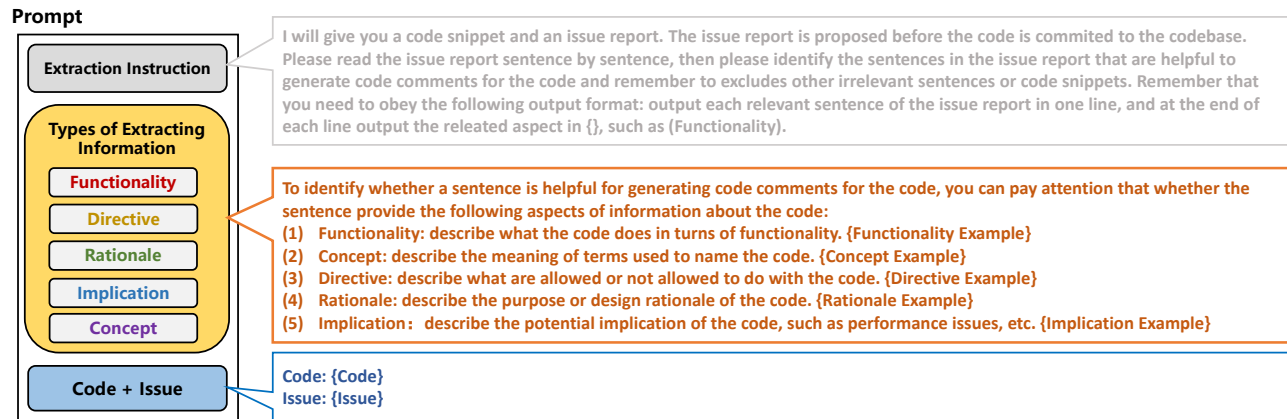**Figure 3: Code-Issue Retrieval Prompt**

Prompt

Extraction Instruction

I will give you a code snippet and an issue report. The issue report is proposed before the code is commited to the codebase. Please read the issue report sentence by sentence, then please identify the sentences in the issue report that are helpful to generate code comments for the code and remember to excludes other irrelevant sentences or code snippets. Remember that you need to obey the following output format: output each relevant sentence of the issue report in one line, and at the end of each line output the releated aspect in {}, such as (Functionality).

Types of Extracting Information

- **Functionality**
- **Directive**
- **Rationale**
- **Implication**
- **Concept**

To identify whether a sentence is helpful for generating code comments for the code, you can pay attention that whether the sentence provide the following aspects of information about the code:
(1) Functionality: describe what the code does in turns of functionality. {Functionality Example}
(2) Concept: describe the meaning of terms used to name the code. {Concept Example}
(3) Directive: describe what are allowed or not allowed to do with the code. {Directive Example}
(4) Rationale: describe the purpose or design rationale of the code. {Rationale Example}
(5) Implication：describe the potential implication of the code, such as performance issues, etc. {Implication Example}

Code + Issue

Code: {Code}
Issue: {Issue}

Figure 4: The prompt of information extraction phase in IsComment.

Prompt

Comment Instruction

Please generate code comments to explain the code according to the following supplementary information retrieved from Issue. For each aspect, you need to output "Code Comments" in one line, then output the corresponding aspect of code comments for the code snippet based on the retrieved issue sentences in the following lines.

Types and Extracted Sentences

- **Functionality**
- **Directive**
- **Rationale**
- **Implication**
- **Concept**

Supplementary Information:
(1) Functionality: {Sentneces related to Functionality in Issue}
(2) Concept: {Sentneces related to Concept in Issue}
(3) Directive: {Sentneces related to Directive in Issue}
(4) Rationale: {Sentneces related to Rationale in Issue}
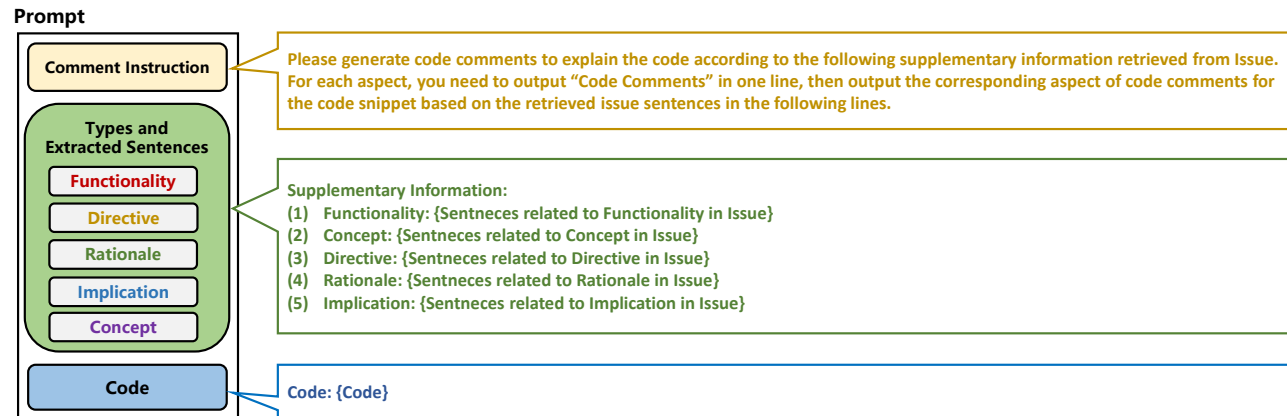(5) Implication: {Sentneces related to Implication in Issue}

Code

Code: {Code}

Figure 5: The prompt of comment generation phase in IsComment.