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C9X Revision Proposal

Title: Proposal to fix "ungetc" for beginning of file.
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Proposal Category:
__ Editorial change/non-normative contribution
X_ Correction
__ New feature
X_ Addition to obsolescent feature list
__ Addition to Future Directions
__ Other (please specify) _____
Area of Standard Affected:
__ Environment
__ Language
__ Preprocessor
X_ Library
__ Macro/typedef/tag name
X_ Function
__ Header
Prior Art:
Target Audience: C programmers
Related Documents (if any):
Proposal Attached: X_ Yes __ No, but what's your interest?

This proposal is for making "ungetc()" undefined at the beginning of a file. Currently, the Standard allows the programmer to push back a character at the beginning of a file. While this ''feature'' (a relic from certain I/O library implementations) is allowed, there is no practical value for pushing back a character prior to reading the first character in a file. The direct consequence of this is that properly coding a ''mark and return'' feature with "ftell()" and "fseek()" becomes overly complex and error-prone because (1) "ftell()" can return -1 as a *valid* file position, (2) the programmer must provide he/her own mechanism for saving the character when performing a ''mark and return'' in this special case, (3) this special case causes much non-localized behavior, e.g., the reading/parsing, the marking of position, and the returning to position functions all have interrelated design, code, and state (!) flags rather than being independent features. Changing this behavior would reduce the complexity of writing applications and libraries that comply with the Standard.

Current wording in "ungetc", 7.9.6.11:

```
        For a binary stream, its file position indicator is
        decremented by each successful call to the "ungetc"
        function; if its value was zero before a call, it is
                                                        ^^^^^
        indeterminate after the call.
        ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
```

Change the last part of the sentence to:

```
        For a binary stream, its file position indicator is
        decremented by each successful call to the "ungetc"
        function; if its value was zero before a call, the
                                                        ^^^
        behavior is undefined.
        ^^^^^^^^^^^^^^^^^^^^^^
```