









Generic Checklist for Code Reviews




Structure

-  Does the code completely and correctly implement the design?
-  Does the code conform to any pertinent coding standards?
-  ☐ Is the code well-structured, consistent in style, and consistently formatted?
- ☐ Are there any uncalled or unneeded procedures or any unreachable code?
- ☐ Are there any leftover stubs or test routines in the code?
- ☐ Can any code be replaced by calls to external reusable components or library functions?
- ☐ Are there any blocks of repeated code that could be condensed into a single procedure?
-  ☐ Is storage use efficient?
-  Are symbolics used rather than “magic number” constants or string constants?
-  Are any modules excessively complex and should be restructured or split into multiple routines?





Documentation

-  ☐ Is the code clearly and adequately documented with an easy-to-maintain commenting style?
-  ☐ Are all comments consistent with the code?






Variables

-  Are all variables properly defined with meaningful, consistent, and clear names?
-  Do all assigned variables have proper type consistency or casting?
-  ☐ Are there any redundant or unused variables?




Arithmetic Operations

-  Does the code avoid comparing floating-point numbers for equality?
-  Does the code systematically prevent rounding errors?
-  Does the code avoid additions and subtractions on numbers with greatly different magnitudes?
-  Are divisors tested for zero or noise?

Loops and Branches

-  Are all loops, branches, and logic constructs complete, correct, and properly nested?
- ☐ Are the most common cases tested first in IF- -ELSEIF chains?
-  ☐ Are all cases covered in an IF- -ELSEIF or CASE block, including ELSE or DEFAULT clauses?
-  Does every case statement have a default?
-  ☐ Are loop termination conditions obvious and invariably achievable?
- ☐ Are indexes or subscripts properly initialized, just prior to the loop?
-  Can any statements that are enclosed within loops be placed outside the loops?
- ☐ Does the code in the loop avoid manipulating the index variable or using it upon exit from the loop?

Defensive Programming

-  ☐ Are indexes, pointers, and subscripts tested against array, record, or file bounds?
-  ☐ Are imported data and input arguments tested for validity and completeness?
- ☐ Are all output variables assigned?
- ☐ Are the correct data operated on in each statement?
- ☐ Is every memory allocation deallocated?
- ☐ Are timeouts or error traps used for external device accesses?
-  ☐ Are files checked for existence before attempting to access them?
- ☐ Are all files and devices left in the correct state upon program termination?