Classification of Fault Types

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Logic problem

Forgotten cases or steps

Duplicate logic

Extreme conditions neglected

Unnecessary function

Misinterpretation

Missing condition test

Checking wrong variable

Iterating loop incorrectly

Computational problem

Equation insufficient or incorrect

Missing computation

Operand in equation incorrect

Operator in equation incorrect

Parentheses used incorrectly

Precision loss

Rounding or truncation fault

Mixed modes

Sign convention fault

Interface/timing problem

Interrupts handled incorrectly

I/0 timing incorrect

Timing fault causes data loss

Subroutine/module mismatch

Wrong subroutine called

Incorrectly located subroutine call

Nonexistent subroutine called

Inconsistent subroutine arguments

Data-handling problem

Initialized data incorrectly

Accessed or stored data incorrectly

Flag or index set incorrectly

Packed/unpacked data incorrectly

Referenced wrong data variable

Data referenced out of bounds

Scaling or units of data incorrect

Dimensioned data incorrectly

Variable-type incorrect

Subscripted variable incorrectly

Scope of data incorrect

Data problem

Sensor data incorrect or missing

Operator data incorrect or missing

Embedded data in tables incorrect or missing

External data incorrect or missing

Output data incorrect or missing

Input data incorrect or missing

Documentation problem

Ambiguous statement

Incomplete item

Incorrect item

Missing item

Conflicting items

Redundant items

Confusing item

Illogical item

Non-verifiable item

Unachievable item

Document quality problem

Applicable standards not met

Not traceable

Not current

Inconsistencies

Incomplete

No identification

Enhancement

Change in program requirements

Add new capability

Remove unnecessary capability

Update current capability

Improve comments

Improve code efficiency

Implement editorial changes

Improve usability

Software fix of a hardware problem

Other enhancement

Source: IEEE Standard 1044-2009, Standard Classification for Software Anomalies, IEEE Computer Society Press, 2009.