CORE: Resolving Code Quality Issues using LLMs (Supplementary Material)

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APPENDIX

A MAPPING OF QUERY NUMBERS TO CODEQL QUERY NAMES FOR FIGURE 4 PROPOSER LLM PLOT (TOP)

(1) `import *` may pollute namespace
(2) Constant in conditional expression or statement
(3) Deprecated slice method
(4) Duplicate key in dict literal
(5) First argument to super() is not enclosing class
(6) Import of deprecated module
(7) Inconsistent equality and hashing
(8) Insecure temporary file
(9) Missing call to `__init__` during object initialization
(10) Modification of parameter with default
(11) Module is imported with `import` and `import from`
(12) Nested loops with same variable
(13) NotImplemented is not an Exception
(14) Special method has incorrect signature

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(15) Suspicious unused loop iteration variable
(16) Testing equality to None
(17) Unnecessary delete statement in function
(18) Unused import
(19) Use of `global` at module level
(20) Wrong number of arguments in a call
(21) `__eq__` not overridden when adding attributes
(22) `__iter__` method returns a non-iterator
(23) Non-standard exception raised in special method
(24) Comparison using is when operands support `__eq__`
(25) Illegal raise
(26) Unused local variable
(27) Incomplete ordering
(28) Unnecessary `else` clause in loop
(29) Wrong number of arguments in a class instantiation
(30) Redundant assignment
(31) Should use a `with` statement
(32) Comparison of identical values
(33) Signature mismatch in overriding method
(34) Use of the return value of a procedure
(35) `__init__` method calls overridden method
(36) Flask app is run in debug mode
(37) First parameter of a method is not named `self`
(38) Unnecessary pass
(39) Imprecise assert
(40) An assert statement has a side-effect
(41) Comparison of constants
(42) Module is imported more than once
(43) Except block handles `BaseException`
(44) Incomplete URL substring sanitization
(45) Modification of dictionary returned by locals()
(46) Variable defined multiple times
(47) Conflicting attributes in base classes
(48) Implicit string concatenation in a list
(49) Non-callable called
(50) Unreachable code
(51) Redundant comparison
(52) Unguarded next in generator

B MAPPING OF QUERY NUMBERS TO CODEQL QUERY NAMES FOR FIGURE 4 RANKER LLM PLOT (BOTTOM)

(1) Unnecessary pass
(2) Flask app is run in debug mode
(3) Imprecise assert
(4) Inconsistent equality and hashing
(5) Unguarded next in generator
(6) Wrong number of arguments in a class instantiation
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(9) Deprecated slice method
(10) Incomplete ordering
(11) Insecure temporary file
(12) `__iter__` method returns a non-iterator
(13) Comparison using is when operands support `__eq__`
(14) First parameter of a method is not named `self`
(15) Except block handles `BaseException`
(16) Variable defined multiple times
(17) Testing equality to None
(18) Comparison of identical values
(19) First argument to super() is not enclosing class
(20) NotImplemented is not an Exception
(21) Redundant assignment
(22) Should use a `with` statement
(23) Unreachable code
(24) Unused local variable
(25) Illegal raise
(26) Use of the return value of a procedure
(27) Wrong number of arguments in a call
(28) Module is imported more than once
(29) Unnecessary delete statement in function
(30) Unnecessary `else` clause in loop
(31) Unused import
(32) Special method has incorrect signature
(33) Non-standard exception raised in special method
(34) Duplicate key in dict literal
(35) Use of `global` at module level
(36) Constant in conditional expression or statement
(37) Implicit string concatenation in a list
(38) Suspicious unused loop iteration variable
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