

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
- (7) Modification of parameter with default

- (8) Nested loops with same variable
- (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
- (39) Comparison of constants
- (40) `__eq__` not overridden when adding attributes
- (41) `import *` may pollute namespace
- (42) Missing call to `__init__` during object initialization
- (43) Module is imported with `import` and `import from`
- (44) Conflicting attributes in base classes
- (45) Import of deprecated module
- (46) Signature mismatch in overriding method
- (47) Non-callable called
- (48) Redundant comparison
- (49) Modification of dictionary returned by `locals()`
- (50) Incomplete URL substring sanitization
- (51) An `assert` statement has a side-effect
- (52) `__init__` method calls overridden method

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