PES1UG23CS724 Yuv Nahar SE LAB 5 Static Coding Analysis 5th SEM L section

Known Issue Table:

| **Issue** | **Type** | **Line(s)** | **Description** | **Fix Approach** |
| --- | --- | --- | --- | --- |
| Mutable default arg | Bug | 10 | logs=[] shared across calls causes state retention | Change default to None and initialize logs=[] inside function body |
| Bare except | Security/Style | 19 | No exception type specified; silently catches all errors | Replace bare except with specific exception (KeyError) or check item existence first |
| eval() usage | Security | 59 | eval() executes arbitrary code; major security risk (Bandit B307) | Remove eval() line entirely; serves no purpose and is dangerous |
| Missing final newline | Style | 61 | File missing newline at end | Add newline at end of file |
| Missing module docstring | Documentation | 1 | Module lacks a descriptive docstring | Add module-level docstring at top explaining inventory system purpose |
| Missing function docstrings | Documentation | 8, 14, 22, 25, 31, 36, 41, 48 | All functions missing docstrings explaining purpose/parameters | Add docstrings to all functions describing parameters and return values |
| Function names not snake\_case | Style | 8, 14, 22, 25, 31, 36 | Function names use camelCase instead of snake\_case (addItem, removeItem, etc.) | Rename all functions to snake\_case: add\_item, remove\_item, get\_qty, load\_data, save\_data, print\_data, check\_low\_items |
| Old-style string formatting | Style | 12 | Using % formatting instead of f-strings | Convert to f-strings: f"{datetime.now()}: Added {qty} of {item}" |
| File not closed properly | Bug/Resource leak | 28, 33, 37, 42 | Files opened without context manager (with statement); not closed on exception | Use with open() context manager for all file operations to ensure proper cleanup |
| Global variable modification | Code smell | 29 | Direct global modification without proper encapsulation | Add proper function signature and consider encapsulation or class-based approach |
| Expected 2 blank lines | Style | 8, 14, 22, 25, 31, 36, 41, 48, 61 | PEP 8 requires 2 blank lines between top-level functions | Add 2 blank lines between all function definitions |
| Invalid type handling | Bug | 53, 54 | main() passes invalid types (int as item, str as qty) without validation | Add type checking and validation in functions; raise ValueError for invalid types |
| No input validation | Bug | 10, 15 | Functions accept any type without validation; leads to runtime errors | Add isinstance() checks for item and qty parameters; raise descriptive errors |
| Unused import (logging) | Style | 2 | logging imported but never used in the code | Remove unused import statement for logging module |