PEP 8 Quick Reference

Formatting & Layout

- Indentation: 4 spaces per level (no tabs).
- Line length: ≤ 79 characters (72 for docstrings/comments).
- Blank lines: 2 between top-level defs/classes, 1 between methods.
- Imports: standard library → third-party → local imports, separated by blank lines.

Naming Conventions

- Functions/variables: lower_case_with_underscores (e.g., calculate_sum).
- Classes: CapWords (e.g., RobotArmController).
- Constants: ALL_CAPS_WITH_UNDERSCORES (e.g., MAX_SPEED).
- Modules/packages: short_lowercase_names (e.g., sensors, motor_driver).
- Private members: prefix with underscore (e.g., _update_joint_angles).

Whitespace Rules

- Use spaces around operators and after commas, not before.
- No spaces inside parentheses, brackets, or braces.
- Example: x = 5; value = (x + 1) * 2

Comments & Docstrings

- Explain 'why', not 'what'.
- Start comments with a capital letter and a space after #.
- Use triple-quoted docstrings for modules, classes, and functions.

Other Key Points

- Use if __name__ == '__main__': for script entry points.
- Avoid mutable default arguments (use None instead).
- Prefer explicit imports (e.g., from math import sqrt).
- Use 'with' for file and resource handling.