

Style Guide Defects (Style Defects may be minor or major)

1. There are missing comments. We should work to add those comments for Cycle 3.
2. Many of the variables that are not final are not private.
3. More than 30 lines of code are used for some methods.

Possible Defects

Are size and bounds checks carried out when and where necessary? (a good practice is to use inclusive lower limits and exclusive upper limits)

1. There are some bound checks that still need to be done in the Person class.

Is there ever any mismatch between the units of an expression and those of a variable? (feet to meters)

1. We have not yet utilized units of expression in our code.

Are number variables appropriate maximum size? (int, double, etc.)

1. Our number variables are used appropriately.

Are array, buffer, table (etc.) sizes appropriate? (Too little or too big, both bad)

1. Our array sizes are good.

Are equality tests used on floating point numbers? (Always bad)

1. There are no equality tests on floating point numbers.

When testing for errors, could the "error condition" actually be legitimate in some cases?

1. In some cases, the error case could be legitimate. We need to take a closer look at these cases before the final version is submitted.

Are exceptions declared, thrown and handled correctly?

1. We need to add more if/else checks inside methods, but for the most part our exceptions are handled correctly.

Is every function call the correct function? (Not a similarly named function)

1. Every function call that is present in the code is correct.

Are preconditions checked before a function call (if necessary)?

1. We need to explicitly define preconditions and postconditions when we get to the point of improving comment quality.

Are postconditions ensured at the time of every possible function return point?

1. Postconditions are ensured, although not explicitly defined in the comments.

Are files and other resources closed in all possible exits?

1. All files/resources are closed.

Note:

Studies have shown that the most acceptable forms of for loops (to avoid off-by-one errors) are these:

```
for ( i = 0; i <= max_index; ++i )
for ( i = 0; i < sizeof(array); ++i )
for ( i = max_index; i >= 0; --i )
for ( i = max_index; i; --i )
```