

SENG 300 Assignment 3
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Due: March 29, 2020

Using:

Java Inspection Checklist

1. Variable, Attribute, and Constant Declaration Defects (VC)

- ☒ Are descriptive variable and constant names used in accord with naming conventions?
- ☒ Are there variables or attributes with confusingly similar names?
- ☒ Is every variable and attribute correctly typed?
- ☒ Is every variable and attribute properly initialized?
- ☒ Could any non-local variables be made local?
- ☒ Are all for-loop control variables declared in the loop header?
- ☒ Are there literal constants that should be named constants?
- ☒ Are there variables or attributes that should be constants?
- ☒ Are there attributes that should be local variables?
- ☒ Are there static attributes that should be non-static or vice-versa?

2. Method Definition Defects (FD)

- ☒ Are descriptive method names used in accord with naming conventions?
- ☒ Is every method parameter value checked before being used?
- ☒ For every method: Does it return the correct value at every method return point?
- ☒ Do all methods have appropriate access modifiers (private, protected, public)?
- ☒ Are there static methods that should be non-static or vice-versa?

3. Class Definition Defects (CD)

- ☒ Does each class have appropriate constructors and destructors?
- ☒ Do any subclasses have common members that should be in the superclass?
- ☒ Can the class inheritance hierarchy be simplified?

4. Data Reference Defects (DR)

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5. Computation/Numeric Defects (CN)

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6. Comparison/Relational Defects (CR)

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7. Control Flow Defects (CF)

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8. Input-Output Defects (IO)

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9. Module Interface Defects (MI)

☒ Are the number, order, types, and values of parameters in every method call in agreement with the called method's declaration?

10. Comment Defects (CM)

☒ Does every method, class, and file have an appropriate header comment?

☒ Does every attribute, variable, and constant declaration have a comment?

☒ Is the underlying behavior of each method and class expressed in plain language?

☒ Do the comments and code agree?

☒ Do the comments help in understanding the code?

☒ Are there enough comments in the code? Are there too many comments in the code?

11. Layout and Packaging Defects (LP)

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12. Modularity Defects (MO)

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13. Storage Usage Defects (SU)

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14. Performance Defects (PE)

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Serial Number	Code Line Number	Description	Severity
0	4	Missing or bad package com.foo	High
1	87	Main declaration should not be defined inside Object (Line 13) and should have its own class.	High
2	12	Every class extends Object can leave it out	Low
3	14	Bad name. Final 'ONE' is initialize to 0. Not used anywhere in program, could remove.	Low
4	17	Misspelled name 'constructor'	Low
5	21	Like (Serial 1) you don't need to call and initialize the Object class. No need to call super() here.	Low
6	33	FI() is not a descriptive / helpful name	Medium
7	34	hashCode() defines a 4 byte id unique to class instance, switching on it does not make sense its going to give you undefined behavior every time you create a new object. On top of that switching on it with only 0,1,2 when hashCode() can return numbers between 0 and 2^{32} is not going to work.	High
8	38	Assumed missing break after z = 15 unless fall through is wanted. In that case that should be documented.	High
9	44	Cases z = 3,4 and -1 are not dealt with	High
10	46	Semi-colon after {if (z>4)->;<-} makes it so the print statement is always executed should be deleted.	High
11	51	Poor function name and takes 2 parameters and always returns 0. Function should be implemented or deleted if no used.	High
12	61	Documentation says there is a fourth values, but it only takes 3 parameters.	Low
13	65	Function implies it will return the sum, but it returns the product of the three values.	High
14	74	Documentation says it takes a fourth value but it only takes three.	Low
15	77	Function redefinition. There already a sum with three integer parameters.	High
16	77	Bad name. Documentation says it returns the largest but name 'sum' implies it adds the inputs	Medium
17	78	Always return the third parameters which is not always going to be the largest value. Need to do some comparisons and return the correct value.	High