

University of Calgary

Winter 2020

SENG 300 – L01 –T10

Introduction to Software Engineering

Assignment #3

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Software Inspection Checklist¹

Functionality	Description
F1	Does each unit have a single purpose?
F2	Is there code that should be in separate functions?
F3	Is the code consistent with performance requirements?

Data Usage	Description
D1	Are declarations of global value used correctly?
D2	Are variables declared as pointers used as pointers (not integers)?

Logic	Description
L1	Is there any incorrect or missing Boolean value?
L2	Do assignment and conditional operators always have space around them?
L3	Are "if...else" trees and "switch" used clearly?

Clarity	Description
C1	Are the comments in the units informative?
C2	Are loops indented and visually separated from the surrounding code?
C3	Is the layout of the code such that the logic is apparent?

Testability	Description
T1	Can the program set be tested, demonstrated, analyzed, or inspected to show that it satisfies requirements?
T2	Can the program set be integrated with previously tested code and can it be tested incrementally?

Documentation	Description
D1	Are all the functional characteristics of the program described?
D2	Does a specific algorithm meet all of its requirements?
D3	Does the code document properly with the required format?

Maintenance	Description
M1	Is the module easy to change?

¹*Software Formal Inspections Guidebook*. 1993. 1st ed. Washington, D.C.: National Aeronautics and Space Administration.

M2	Are any programming standards for the project in jeopardy of compromise because of the design?
M3	Is there traceability between maintenance documents and the design?

Miscellaneous	Description
M1	Are there any spelling mistakes?
M2	Does the indentation style (the use of brackets, tabs etc.) consistent?

Faults/Severity Table

Sr. No.	Code Line #	Description	Severity
1	2	"java.util" library: not being utilized	Minor
2	4	Error on "package": import expected	Major
3	16-20, 19, 25-32, 56- 63, 69, 81	Comments: do not help other programmer to understand functionality, not relevant At line 16-20, 25- 32, 81: no proper documentation At line 19: @return but there is no return in the program At line 56-63, 69: Comments has 4 parameters and the function has 3 parameters.	Medium
4	12	Indentation: inconsistent	Minor
5	5, 9, 29 - 31	Comments: No author name, no proper comments, no descriptions of the program or date	Minor
6	17	Spelling error: "construcster" should be "constructor"	Minor
7	36	Switch statement: no default case	Major
8	37	Switch statement: no "break for case 0 - inconsistent code	Medium
9	60,73	Spelling error: "second" should be "second"	Minor
10	64	Duplicate functions: There are 2 "sum" functions	Major
11	46	Syntax error: There should be {} instead of ;	Major
12	51	Functions: passing 2 arguments but always return 0 – unnecessary functions	Major
13	21, 33, 51, 78	Function: function name does not match with its functionality, unclear	Major
14	14	Data usage: global variables declared but not used	Medium