

**COMP251 Writing Assignment, Part 1A:
Technical report comparing integer and floating-point arithmetic
(100 points)**

Scenario: You are an employee at a medium-sized high-tech firm, the Good Software Company (GSC). GSC has decided to reassign a team of user interface developers to work on their data analytics software. The user interface developers are experienced Java programmers, but their user interface work has not required them to make careful design decisions about numeric datatypes. In contrast, the new focus on data analytics will require good knowledge of the advantages and disadvantages of integer arithmetic compared with floating-point arithmetic. Specifically, they need to know the advantages and disadvantages of the following Java datatypes: int, long, float, double. Your GSC manager has asked you to write a short technical report to be used as background reading by the members of the new team.

Details: Your report should be 3-4 singlespaced pages with any reasonable formatting. Use tables, charts, and text in any suitable combination to convey the information as clearly as possible. Consider your audience and the purpose of the report carefully. Your audience probably does not need to know every detail about the IEEE formats for numeric datatypes; instead, they need to know the relevant implications for good programming with numeric data. As with all technical and academic writing, cite all sources and include a bibliography, which can be in any standard bibliographic format. You are not required to consult sources other than the textbook, but you may do so. There is no particular recommended structure for the report, which may or may not include separate sections such as introduction, conclusion, etc. In other words, the structure depends on your own judgment of how best to convey the necessary information clearly. Submit a PDF of your report to Moodle by the due date.

Rubric: To receive a high grade, the report must demonstrate excellence in the following aspects:

- Correct spelling, punctuation, grammar, citations, and bibliographic style
- Scientific accuracy
- Clarity of technical explanations
- Thoughtful use of tables, charts, and text to convey different types of information in the most appropriate way
- Logical flow and structure
- Length is within the specified page limits

Suggestion: It is recommended, but not required, to visit the writing center to obtain help with meeting the above requirements. Complete a draft of your report as early as possible, make an appointment with the writing center, and take your draft to the appointment.