

Language Study: Erlang

CMPT 333

– Lab 2 - 75 points

Goals	<ul style="list-style-type: none">• to enjoy Erlang’s functional nature• to experiment with modules that have both public and private components• to compare and contrast Erlang with an Object-oriented language• to bask in the glory that is recursion
Requirements and Notes	<p>Develop two programs — one in Erlang and the other in Java or C++ — to generate a list of M other lists where each of the other lists contain an N-length sequence of every M^{th} integer.</p> <p>For example, if N is bound to 6 and M is bound to 14 then we expect 14 lists of 6 elements each, spaced by 14 units.</p> <pre>[[14, 28, 42, 56, 70, 84], [13, 27, 41, 55, 69, 83], [12, 26, 40, 54, 68, 82], [11, 25, 39, 53, 67, 81], [10, 24, 38, 52, 66, 80], [9, 23, 37, 51, 65, 79], [8, 22, 36, 50, 64, 78], [7, 21, 35, 49, 63, 77], [6, 20, 34, 48, 62, 76], [5, 19, 33, 47, 61, 75], [4, 18, 32, 46, 60, 74], [3, 17, 31, 45, 59, 73], [2, 16, 30, 44, 58, 72], [1, 15, 29, 43, 57, 71]]</pre> <p>Finally, write a few paragraphs reflecting on practical and philosophical differences between your two programs. I am particularly interested in the philosophical aspects.</p>
Resources	<ul style="list-style-type: none">• Our book, links on our class website, and Erlang itself.
Hints	<ul style="list-style-type: none">• Don’t use N and M as identifiers; those are terrible names. Pick better ones.• Write the Erlang version first, as it may affect how you approach programming the Java or C++ version.
Submitting Your Work	<p>Commit the following to your <i>Lab 2</i> directory in your private GitHub repository on or before the due date (see our syllabus):</p> <ul style="list-style-type: none">• your source code for both programs;• your test cases;• a transcript of two successful runs for each program with expected data;• a transcript of two successful runs for each program with unexpected data that would have caused errors had you not prevented it; and• your philosophical reflections as a document composed in LaTeX. (Commit both the PDF and LaTeX source.)