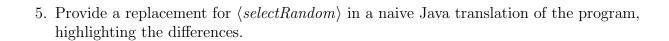
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This exercise is based on the Derrick Coetzee's implementation of linear-time selection as a literate program.¹

- 1. List the members of your group below. Underline your name.
- 2. Provide a simple linear-time algorithm for finding the 3rd and 7th smallest elements (together) of an array.

- 3. What tools were likely used to produce this program? Hint: See page headers.
- 4. Briefly explain the notation used on page 2 of the program. What does the 7 in $\langle median5 7 \rangle$ denote? What does the notation (2) as used on the right of page 3 denote?

¹Derrick Coetzee, An efficient implementation of Blum, Floyd, Pratt, Rivest, and Tarjan's worst-case linear selection algorithm, http://moonflare.com/, 2004.



6. Provide an alternate implementation of $\langle selectRandom \rangle$ in Java or C++ that is significantly different from those in the program and Question 5. Highlight the differences and their significance.

7. Critique the implementation of $\langle select\ base\ case \rangle$.