

Go To Statement Considered Harmful

The article “Go To Statement Considered Harmful”, written by Edsger W. Dijkstra of the Technological University of Eindhoven, the Netherlands, attempts to explain why, as the author puts it, “the **go to** statement should be abolished from all ‘higher level’ programming languages.” He begins his article by stating that the true work of a programmer is not completed upon writing the code, but rather continues through the dynamic execution of it. Dijkstra further argues that programmers should do their utmost to reduce the gap between the static program and the dynamic process (the Structure Principle). That is, the actual execution of the program should be fairly obvious from the written code of it. The author begins to nail down his point by stating that the progress of a programming process is determined by textual indices (“successive action descriptions”, i.e. successive lines of code) and/or “dynamic indices” (repetition clauses, i.e. clauses with not static way to count the number of repetitions). This point leads to the foundation of the author’s argument: the programmer, by default, creates a set of procedural coordinates (indices) that are outside of his control. Therefore, the only way to interpret a specific piece of the static code is only with respect to the whole dynamic process. That is the problem with the go to statement; there is not well-defined way to find a set for coordinates for the statement. The author states that the programmer could make use of a counter variable; however, that does not solve the problem since it is too difficult to define all the points of progress where a change takes place. The author concludes that the problem with the go to statement is that it is “just too primitive.” It makes it too easy to mess up one’s program and, therefore, programmers should avoid it and rather make use of statements where “an independent coordinate system can be maintained to describe the process in a helpful and manageable way.” A static programming statement should obviously reflect its dynamic purpose.

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Edsger W. Dijkstra. 1968. Letters to the editor: go to statement considered harmful.

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