CONTROL FLOW GRAPH VISUALIZATION

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The aim of this work is to develop a method for controlling the layout of the graph in the plane, the map which would correspond to the maximum flow charts.

The method is based on the separation of the control box in the regions with one input and one output node and their subsequent replacement with abstract nodes. Thus, as a result of semantically equivalent transformations of the original graph rolled into one abstract node that contains a hierarchy of isolated regions, each of which is associated with one of the predefined templates display. As a result, the task of visualizing the control graph is reduced to a description of the display templates.

In this paper we propose a new approach to the layout control flow graph on the plane using the methods of structural analysis. On the basis of the developed methods implemented structural guide support attribute control flow graph. Produced by testing the structural spreader on tests SPEC CPU2000:

* 197.parser (for parsing natural language)
* 252.eon (Ray tracing)

As a result, about 70 % graphs managed to structure completely (do not contain undefined regions). About 96 % of all selected regions are structural.

The proposed method allows you to select a control graph subgraphs corresponding to high-level programming language statements that enable the use of pictorial conventions adopted in drawing flowcharts.