
From Russia With Forth

Sergei N. Baranoff is perhaps the leading proponent of Forth in the Soviet Union. He has written the only textbook on Forth in Russian. It is a measure of the interest in Forth in his country that the full printing of 100,000 copies was sold in two weeks.

We are very fortunate that Dr. Baranoff has submitted three papers to JFAR. They are fascinating, showing the development of Forth and computer science in the USSR. Wishing to publish them promptly, we have made a very unusual exception to our policy and have not sought external review.

We have edited the papers for English style and grammar. Hopefully we have not changed the content in any way, but any errors that have been introduced are the fault of the editors.

Dr. Baranoff's book appears to be quite advanced and very complete. It is small (157 pages) but frustrating for one who does not read Russian, for it seems to include innovative ideas and techniques. His program listings are intriguing, with the code in ForthEnglish and the comments in the Cyrillic alphabet. The abstract and table of contents follow.

— *Mahlon G. Kelly, Editor*

The Forth Language and Its Implementation

By S. N. Baranoff and N. R. Nozdrunoff

Leningrad: Mashinostroyeniye, Leningrad Branch, 1988, 157 pp.

(English copy provided by S. N. Baranoff)

Abstract

The book is the first in Russian on Forth. This language became popular abroad (especially for personal computer programming) and attracted attention for Soviet programmers due to its methodological peculiarities. The Forth language combines the merits of both compiling and interpreting systems and is oriented for dialogue usage. The book contains a great number of examples.

The book is recommended to a wide community of programming engineers and may be useful for computer users without special training in programming.

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- 1.2. Working in dialog.
- 1.3. The data stack and calculations.
- 1.4. Introducing new words.
- 1.5. Constants and variables, memory handling.
- 1.6. Logical operations.
- 1.7. Control structures.

1.8. Characters and strings, formatted output of numbers.

1.9. Defining words.

Chapter 2. Implementations and Extensions.

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2.2. The structure of a dictionary entry.

2.3. The return stack and implementation of control structures.

2.4. Word search control.

2.5. Implementation of defining words.

2.6. The built-in assembler.

2.7. Working with mass storage.

2.8. Input stream interpreting.

2.9. Target compilation and a Forth system model.

Chapter 3. Examples of Programming Studies.

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3.9. Overlay.

3.10. Elementary machine graphics.

3.11. Implementation of a built-in assembler.

Appendix 1. A Forth system model.

Appendix 2. Forth systems in current use.

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