TC 97

International Standard 1538

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Programming languages — ALGOL 60

Langages de programmation ALGOL 60

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1538 was prepared by Technical Committee ISO/TC 97, *Information processing systems.*

This International Standard replaces ISO/R 1538 (withdrawn in 1977) of which it constitutes a revision.

ISO Recommendation 1538 was a compilation of several source documents. The basic one [developed under the auspices of the International Federation for Information Processing (IFIP), whose contributions are acknowledged] was the Revised Report on the Algorithmic Language ALGOL 60.

The text presented in this International Standard is based on the Modified Report on the Algorithmic Language ALGOL 60, which is a minor technical revision and a textual clarification of the Revised Report, as established by IFIP. For reasons of ISO editorial policy the original introduction which is irrelevant to an International Standard has been deleted and some introductory clauses have been added instead.

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Programming Languages — ALGOL 60

0 Introduction

In this International Standard consistent use is made of ALGOL 60 as the name of the language, rather than just ALGOL, in order to avoid confusion with ALGOL 68 which is a completely different language. It is recommended that the language defined in this International Standard be referred to as STANDARD ALGOL 60.

Whenever the name ALGOL is used in this International Standard it is to mean ALGOL 60, not ALGOL 68, unless it is clear from the context that no specific language is indicated.

1 Scope and field of application

This International Standard defines the algorithmic programming language ALGOL 60. Its purpose is to facilitate interchange and promote portability of ALGOL 60 programs between data processing systems.

ALGOL 60 is intended for expressing a large class of numerical processes in a form sufficiently concise for direct automatic translation into the language of programmed automatic computers.

This International Standard specifies:

a) the syntax and semantics of ALGOL 60;

b) characteristics of programs written in ALGOL 60, and of implementations of that language, required for conformance to this International Standard.

This International Standard does not specify:

a) results of processes or other issues, that are, explicitly, left undefined or said to be undefined;

b) questions of hardware representation (these may be the subject of another International Standard), or of implementation;

c) the way non-valid programs are to be rejected, and how this will be reported;

d) requirements and rules for executing programs on an actual data processing system.

2 Reference

ISO/TR 1672, *Hardware representation of ALGOL basic symbols in the ISO 7-bit coded character set for information processing interchange.*

3 Definitions

For the purpose of this International Standard the following definitions apply:

3.1 valid program: A text written in the ALGOL 60 language that conforms to the rules for a program defined in this International Standard.

3.2 non-valid program: A text that does not conform, but was intended to be a program.

3.3 processor: A compiler, translator or interpreter, in combination with a data processing system, that accepts an intended program, transcribed in a form that can be processed by that data processing system, reports whether the intended program is valid or not, and if valid executes it, if that is being requested.

3.4 implementation: A processor, accompanied with documents that describe

a) its purpose, and the environment (hardware and software) in which it will work;

b) its intended properties, including

- the particular hardware representation of the language, as chosen;
- the actions taken, when results or issues occur that are undefined in this International Standard;
- conventions for issues said to be a question of implementation;