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REPORT

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## Guidelines for the preparation of conformity clauses in programming language standards

*Lignes directrices pour la préparation de chapitres sur la conformité dans des normes concernant des langages de programmation*



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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) together form a system for worldwide standardization as a whole. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The main task of a technical committee is to prepare International Standards but in exceptional circumstances, the publication of a Technical Report of one of the following types may be proposed:

- type 1, when the required support within the technical committee cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/IEC/TR 10034, which is a Technical Report of type 3, was prepared by ISO/IEC JTC 1, *Information technology*.

This Technical Report is complementary to ISO/IEC/TR 10176, *Guidelines for the preparation of programming language standards*, which includes guidelines for the preparation of conformity clauses. This Technical Report provides more detailed information on the topic.

An important aspect of conformity with a standard is the methods of testing for it, and this is dealt with in ISO/IEC/TR 9547, *Programming language processors — Test methods — Guidelines for their development and acceptability*.

# Guidelines for the preparation of conformity clauses in programming language standards

## 1 INTRODUCTION

Conformity clauses are included within the language standard to aid the user of the standard in assessing conformity of processors and programs for adherence to the language standard. If conformity requirements are imprecise, testing for compliance can be difficult and potentially impossible for large portions of the language standard. Therefore, these guidelines seek to encourage the inclusion of conformity clauses in programming language standards, and recommend that the language standard precisely identify the criteria that must be met in order that a valid claim may be made that a processor or program conforms to the language standard.

## 2 SCOPE

Recognizing the dissimilarity of various language standards, the objective of this Technical Report is to provide guidelines for the preparation of conformity clauses for processors and conformity clauses for programs in language standards, together with an annex containing a checklist to aid in this preparation. It was not considered practical to provide model statements that would be suitable for inclusion in all language standards. Therefore, examples have been given to illustrate the type of issues that should be addressed and it is anticipated that these will be adapted, where appropriate, for inclusion in a particular language standard.

It should be borne in mind when reading this document that not all concepts will be applicable to all languages. As examples, language standards do not all specify subsets or permit extensions, and elements that are fully specified by one language standard may be dependent on the processor in another.