

Result of voting

Ballot Information

Ballot reference	ISO/IEC CD 10967-1
Ballot type	CD
Ballot title	Information technology -- Language independent arithmetic -- Part 1: Integer and floating point arithmetic
Opening date	2011-01-08
Closing date	2011-05-08
Note	This is a 4-month FCD ballot and has been circulated as SC 22 N 4593. The disposition of comments report on CD 10967-1 are contained in SC 22 N 4594.

Member responses:

Votes cast (19)	Austria (ASI) Canada (SCC) China (SAC) Denmark (DS) Finland (SFS) France (AFNOR) Germany (DIN) Italy (UNI) Japan (JISC) Kazakhstan (KAZMEMST) Korea, Republic of (KATS) Netherlands (NEN) Romania (ASRO) Russian Federation (GOST R) Spain (AENOR) Switzerland (SNV) Ukraine (DSSU) United Kingdom (BSI) USA (ANSI)
Comments submitted (1)	Portugal (IPQ)

Votes not cast (0)

Questions:

Q.1	"Do you agree with approval of the CD text?"
Q.2	"If you approve the CD text with comments, would you please indicate which type ? (General,

	Technical or Editorial)"
Q.3	"If you disapprove the draft, would you please indicate if you accept to change your vote to Approval if the reasons and appropriate changes will be accepted?"

Votes by members	Q.1	Q.2	Q.3
Austria (ASI)	Approval as presented	Ignore	Ignore
Canada (SCC)	Abstention	Ignore	Ignore
China (SAC)	Approval as presented	Ignore	Ignore
Denmark (DS)	Abstention	Ignore	Ignore
Finland (SFS)	Abstention	Ignore	Ignore
France (AFNOR)	Abstention	Ignore	Ignore
Germany (DIN)	Approval as presented	Ignore	Ignore
Italy (UNI)	Approval as presented	Ignore	Ignore
Japan (JISC)	Approval with comments	All	Ignore
Kazakhstan (KAZMEMST)	Approval as presented	All	Ignore
Korea, Republic of (KATS)	Approval as presented	Ignore	Ignore
Netherlands (NEN)	Approval as presented	Ignore	Ignore
Romania (ASRO)	Approval as presented	Ignore	Ignore
Russian Federation (GOST R)	Approval as presented	Ignore	Ignore
Spain (AENOR)	Abstention	Ignore	Ignore
Switzerland (SNV)	Abstention	Ignore	Ignore
Ukraine (DSSU)	Approval as presented	Ignore	Ignore
United Kingdom (BSI)	Approval with comments	All	Ignore
USA (ANSI)	Abstention	Ignore	Ignore

Answers to Q.1: "Do you agree with approval of the CD text?"

10 x	Approval as presented	Austria (ASI) China (SAC) Germany (DIN) Italy (UNI) Kazakhstan (KAZMEMST) Korea, Republic of (KATS) Netherlands (NEN) Romania (ASRO)
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		Russian Federation (GOST R) Ukraine (DSSU)
2 x	Approval with comments	Japan (JISC) United Kingdom (BSI)
0 x	Disapproval of the draft	
7 x	Abstention	Canada (SCC) Denmark (DS) Finland (SFS) France (AFNOR) Spain (AENOR) Switzerland (SNV) USA (ANSI)

Answers to Q.2: "If you approve the CD text with comments, would you please indicate which type ? (General, Technical or Editorial)"

0 x	General	
0 x	Technical	
0 x	Editorial	
3 x	All	Japan (JISC) Kazakhstan (KAZMEMST) United Kingdom (BSI)
16 x	Ignore	Austria (ASI) Canada (SCC) China (SAC) Denmark (DS) Finland (SFS) France (AFNOR) Germany (DIN) Italy (UNI) Korea, Republic of (KATS) Netherlands (NEN) Romania (ASRO) Russian Federation (GOST R) Spain (AENOR) Switzerland (SNV) Ukraine (DSSU) USA (ANSI)

Answers to Q.3: "If you disapprove the draft, would you please indicate if you accept to change your vote to Approval if the reasons and appropriate changes will be accepted?"

0 x	Yes	
0 x	No	
19 x	Ignore	Austria (ASI) Canada (SCC) China (SAC) Denmark (DS) Finland (SFS) France (AFNOR) Germany (DIN) Italy (UNI)

Japan (JISC)
Kazakhstan (KAZMEMST)
Korea, Republic of (KATS)
Netherlands (NEN)
Romania (ASRO)
Russian Federation (GOST R)
Spain (AENOR)
Switzerland (SNV)
Ukraine (DSSU)
United Kingdom (BSI)
USA (ANSI)

Comments from Voters		
Member:	Comment:	Date:
Japan (JISC)	<i>Comment File</i>	2011-04-19 06:31:50
See attached file		
United Kingdom (BSI)	<i>Comment File</i>	2011-04-09 12:06:15
See attached file		

Comments from Commenters		
Member:	Comment:	Date:
Portugal (IPQ)	<i>Comment</i>	2011-05-09 16:00:02
Abstention		

Template for comments and secretariat observations

Date: 2011-04-02

Document: ISO/IEC FCD 10967-1

1	2	(3)	4	5	(6)	(7)
MB ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note (e.g. Table 1)	Type of comment ²	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
JP	All		ed	The term “this document” is used throughout this standard referring to itself. This seems unusual. In particular, “implementation of this document” in 4.2.11 is not appropriate. We suggest to change “this document” to “this standard”, which appear in 1.2, 5.2, and many places in Annex C.		
JP	Foreword	last line	ed	The last sentence says “Additional parts will specify ... arithmetic operations”, but we understand that WG11 has no plan to publish new parts of 10967.	Remove the sentence.	
JP	Introduction	The benefits para.4	ed	The verb “correct” in “(and possibly correct for)” seems inappropriate.	Change it to an appropriate verb. We suggest “(and possibly handle)”.	
JP	1.1	b)4)	ed	The sentence is hard to read. The relationship of the phrase after the comma “at least one of the datatypes...” and the phrase before the comma is not obvious.	The phrase following the comma should be rephrased suitably.	
JP	2	para.2	ed	The second sentence refers to “some arbitrary computing entity”, but the meaning of this term is not obvious. What does “computing entity” mean? Unless some concrete example can be imagined, the second sentence simply repeats the meaning of the first sentence, and is useless.		
JP	4.1.1	para.1	ed	The word “classical” in “the set of classical real numbers” is an unnecessary qualification.	Change the phrase to “the set of real numbers”.	
JP	4.1.1	para.1	ed	Two set inclusion relations are given, “ $Z \subset R \subset C$ ” and “ $Z \subset C$ ”. The latter is not necessary, since it can be derived from the first relation. We usually do not consider the relationship between Z (integer) and C (complex).	The second relation should be deleted.	
JP	4.1.2	last line before Note1	ed	Three functions “ x^y ”, “ \sqrt{x} ”, “ \log_b ” are given. Of these, only “ \log_b ” does not have “x” in its notation. This is not consistent.	Change “ \log_b ” to “ $\log_b\{x\}$ ”.	
JP	4.1.3	c)	te	The sentence says that “overflow” occurs when “the rounded result (...) is larger than ...”, but this excludes negative values with large absolute value.	Change the condition to “the absolute value of the rounded result (...) is larger than ...”.	
JP	4.1.3	c)	ed	It seems that a noun should be inserted after “than” in “is larger	We suggest to change the condition to “is larger than	

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2 Type of comment: ge = general te = technical ed = editorial

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Template for comments and secretariat observations

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				than can be represented”.	what can be represented”.	
JP	4.1.6	para.3 of Note1	ed	We suspect that there is a grammatical error in the sentence “If notification (even when ...) ...”. We could not read it.		
JP	4.2.4		ed	The term “double rounding” appears in parentheses. The meaning of this term is not obvious.	Clarify the meaning of “double rounding”.	
JP	4.2.5		ed	The word “loose” in “may loose precision” would be a misspelling of “lose”.		
JP	4.2.11		ed	The phrase “Implementation (of this document)” looks strange. We consider that this definition does not need the qualification “(of this document)”. It is a definition of a general term.	Change the title to “Implementation”.	
JP	4.2.8	Note2	ed	The term “annex D” appears. “annex” should be capitalized. In this document, “Annex” and “annex” are interchangeably used. This is not consistent. We do not report this kind of editorial problem further.	Change it to “Annex D”.	
JP	4.2.9		ed	The term “clause 5” appears. “clause” should be capitalized. In this document, “Clause” and “clause” are interchangeably used. This is not consistent. We do not report this kind of editorial problem further.	Change it to “Clause 5”.	
JP	5	para.1	ed	The word “characterized” appears in the fourth line. This word is sometimes spelled “characterise” and sometimes “characterize”. The same phenomenon can be observed for similar words like “...ise” and “...ize” or “...isation” and “... ization”. We suspect that “...ise” or “...isation” should be used for most of these words. We do not point out this kind of remarks again.	Change it to “is characterised”.	
JP	5.1	definition of minint_I	te	It says “(the smallest integer in I if bonded_I=true)”. This does not cover the case “bounded_I=false”. The latter case is covered in the following sentences, but we think that the definition itself should be complete.	Change the definition to “(the smallest integer in I if bounded_I=true, -∞ if bounded_I=false)”.	
JP	5.1	definition of maxint_I	te	The same comment as above. The definition “(the largest integer in I if bonded_I=true)” is not complete.	Change the definition to “(the largest integer in I if bounded_I=true, +∞ if bounded_I=false)”.	

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JP	5.1.2.1	gtr_I	ed	The right hand of the definition “gtr_I(x,y)” is “lss_F(y,x)”, but this is not correct. Integer functions should not be defined in terms of floating point functions.	Change the definition to “gtr_I(x,y)=lss_I(y,x)”.	
JP	5.1.2.1	geq_I	ed	The same comment as above. The definition of “geq_I(x,y)” should not refer to “leq_F(y,x)”.	Change the definition to “geq_I(x,y)=leq_I(y,x)”.	
JP	5.1.2.2	Signum_I quot_I mod_I	te	These functions are not defined for infinity argument values. We think that there is no reason to exclude these cases. Functions add_I, sub_I, mul_I, and abs_I take infinity cases into account.	Specify values for the cases x and y are -\infinity or +\infinity.	
JP	5.2	Note3	ed	There should be a comma after “which did not occur in the first edition of this document”.		
JP	5.2.3		ed	Items a), b), c) appear twice in the same clause. This is not appropriate.	Resolve in some way.	
JP	5.2.4	Note1	te	This note gives the range $]-2 \cdot f_{minN_F}, 2 \cdot f_{minN_F}[$ for the case “e_F(x) is emin_F”. We consider that this range is not correct. It includes the normal case as well as the subnormal case, and the multiplier “2” is intended to cover the normal case. For floating point representations with r_F not equal to 2, this value is not correct. It should be replaced by “r_F”.	Change the range to “ $]-r_F \cdot f_{minN_F}, r_F \cdot f_{minN_F}[$ ”.	
JP	5.2.6.2	Note1	ed	The name “fminn_F” is a misspelling of “fminN_F”.		
JP	5.2.6.3	Note1	ed	The word “infinitaty” is a misspelling of “infinitary”.		
JP	5.3	para.2	ed	This paragraph begins with “The latter includes ...”. The preceding paragraph contains three cases a), b) and c), and thus “the latter” does not make sense here.	Rephrase the sentence.	
JP	6.2.1	para.2 below Note5	ed	One of two “be”s should be deleted in “Let Ind be be a type ...”.		
JP	6.2.1	para.1 below Note7	te	The type name “Ctx” is used, but we could not find its definition.	Define Ctx.	
JP	8	d)	ed	The section reference is not correct.	“(See 5.1.2)” should be changed to “(See 5.1.2.2)”.	

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JP	A.6	last para. of p.45	ed	The word “The” in “The there shall be ...” should be deleted.		
JP	A.6	add ^{^*} _F	te	We suspect that the requirement “add ^{^*} _F(u,v)member F\dagger \equiv add ^{^*} _F(u,v)=u+v” is not what is intended. We think that the condition should be given in terms of mathematical functions.	We suggest to change the requirement to “u+v \member F\dagger \equiv add ^{^*} _F(u,v)=u+v”.	
JP	A.6	mul ^{^*} _F	te	The same comment as above for “mul ^{^*} _F”.	We suggest to change the requirement to “u\cdot v \member F\dagger \equiv mul ^{^*} _F(u,v)=u\cdot v”.	
JP	A.6	div ^{^*} _F	te	The same comment as above for “div ^{^*} _F”.	We suggest to change the requirement to “u/v \member F\dagger \equiv div ^{^*} _F(u,v)=u/v”.	
JP	A.6	last para. of p.47	ed	The phrase “is defined by” is not appropriate in “there shall be a parameter rnd_style_F, available ..., is defined by”.	We suggest to change it to “there shall be a parameter rnd_style_F, available ..., which is defined by”.	
JP	B.1	i)	te	The type name “void” in “flagsType saveFlags(void)” does not make sense for languages other than C family.		
JP	B.1	j)	te	The same comment for “void defaultModes(void)”.		
JP	C.1.2	para.1	ed	The author name “Kulish” would be a misspelling of “Kulisch”. The latter appears in the Bibliography.		
JP	C.4.2	para.3	ed	The TeX command “\tt” is spelled “tt” here, and appears in the print out. (two places)		
JP	C.5	para.2	ed	One of two “a”s should be deleted in “requires that a a parameter”.		
JP	C.5.1.0.2	last para.	ed	The sentence “However, is not to say...” does not have a subject.		
JP	C.5.1.0.3	para.1	ed	The word “signed” should be typed in bold face font.		
JP	C.5.2.2	second last para.	ed	The variable name “g” is used without any explanation.		
JP	C.5.2.6.2	c)	ed	The word “negativ” is a misspelling of “negative”.		
JP	C.5.2.8	para.3	ed	The word “that” in “has less precision that the argument types” would be a misspelling of “than”.		

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JP	C.5.2.8	fifth last line of p.75	te	We think that “u,v \member F” is not correct. These two variables belong to the range of functions add, etc., which is F’ instead of F.		
JP	C.5.3	para.1	ed	The word “as” in “An example of such as conversion” seems to be a misspelling of “a”.		
JP	C.6.2.2	para.2	ed	The word “ADA” should not be fully capitalized.	Change it to “Ada”.	
JP	D.1	p.91	ed	The functions “truncdiv” and “truncrem” are not defined in LIA-1, and thus should not be listed in the example bindings. The point is that Ada “x/y” does not correspond to “quot” of LIA-1, and it would be better to explicitly state this fact in the comment section after this table.		
JP	D.1	p.91	ed	The notations “bad sem”, “dev”, “partial conf”, etc. often appear in Annex D but their meanings are not explained.	Give the definitions or some explanations.	
JP	D.1	p.91	ed	The lines for “truncdiv” and “truncrem” are too long and the right margin of these lines is too small. There are many similar lines in Annex D. We do not report this kind of editorial problem further.		
JP	D.1	para.3 of p.92	ed	One of two “in”s should be deleted in “mathematically result in in a value”.		
JP	D.1	last para.	ed	The word “loose” in “In order not to loose notification indicators” would be a typo of “lose”.		
JP	D.2	p.97	ed	The function neg_I(x) is marked with a star in parentheses. This notation is not explained. We could not understand the intent of this mark.		
JP	D.2	p.99	ed	The symbol “E” is defined in the paragraph after the table, but this symbol does not appear in the table itself.		
JP	D.4	p.112	ed	Four syntax definitions for “clear_indicators”, etc. contain the word “loop”. Is this correct?		
JP	D.5	para. before Note of p.113	ed	The word “appropriate” is a misspelling of “appropriate”.		

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JP	D.5	p.116	ed	The line for “absolute_precision_underflow” has a formatting error (overstriking).		
JP	E.5	para.1 of p.119	ed	The word “an” in “If an notification” should be “a”.		
JP	F.2	para.1	ed	The word “behavior” should be spelled “behaviour”.		
JP	F.2	last para.	ed	The word “that” in “rather that using” would be a typo of “than”.		
JP	Bibliography	[2]	ed	Publication year should be finalized. “2009?” is not acceptable.		
JP	Bibliography	[3] and [4]	ed	Publication year is not given for these two standards.		
JP	Bibliography	[12]	ed	ISO/IEC 13813 was withdrawn. It should not be cited in the Bibliography.		
JP	Bibliography	[19], [20], [22]	ed	We understand that these standards have been revised recently. Their publication year should be updated.		
GB	4.2.10 and 5.2		ed	There are bad page breaks between pages 8 & 9 and between pages 17 and 18.	Attend to page breaks once technical editing is complete.	
GB	Annexes D.1. to D.4		ed	The note "bad sem." is used in ten places without explanation. In five places it is associated with the note "(dangerous syntax)".	Provide explanations or remove the notes	
GB	Annex C.3	1	ed	The date for the IEEE standard is incorrect.	Replace “IEEE 754-1984” by “IEEE 754-1985”.	
GB	Annex C.3	1	ed	The third edition of IEC 60559 has not yet been published.	Change “2009?” to “2011”.	

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GB	Annex D.4	1	ed	The current Fortran standard is the 2010 revision.	Replace “1539-1:2004” by “1539-1:2010”.	
GB	Annex D.4	9	ed	The use of “kind=8” is implementation-specific.	Replace “real(kind=8) (double precision)” by “real(kind=kind(0.0d0)) (double precision)”.	
GB	Annex D.4	14	te	The statement “Arithmetic value conversions in Fortran are always explicit” is not true. Also the remainder of the paragraph uses out-dated language features.	Text to replace “Arithmetic value conversions in Fortran are always explicit...” to “... all of the <i>lbl_s</i> are labels for formats” is in an accompanying document.	
GB	Annex D.4	15	ed	The current Fortran standard is the 2010 revision.	Replace “ISO/IEC 1539-1:1997, clause 4.3.1.1 Integer type, and clause 4.3.1.2 Real type” by “ISO/IEC 1539-1:2010, clause 4.4.2.2 Integer type, and clause 4.4.2.3 Real type”.	
GB	Annex D.5	19	ed	Column 1 of a table overwrites part of column 2.	Attend to formatting.	
GB	Annex E	3	ed	The current Fortran standard is the 2010 revision.	Replace “1539-1:2004” by “1539-1:2010”.	
GB	Annex E.1	1	ed	The terms “(kind=4)” and “(kind=8)” are implementation-specific. The same effect can be achieved by implementation-independent text.	Replace the paragraph by “There is one integer type, called integer. There are two floating point types, called real and double precision (or real(kind=kind(0.0d0)))”.	
GB	Annex E.3	1 & 2	ed	The terms “(kind=4)” and “(kind=8)” are implementation-specific. The same effect can be achieved by implementation-independent text.	Replace “real (kind=4)” by “real” and replace “real (kind=8)” by “real (kind=kind(0.0d0))”, each 6 times.	
GB	Bibliography	2	ed	The third edition of IEC 60559 has not yet been published.	Change “2009?” to “2011”.	
GB	Bibliography	22	ed	The current Fortran standard is the 2010 revision.	Replace “1539-1:2004” by “1539-1:2010”.	

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Addendum to BSI comment on ISO/IEC FCD 10967-1, Annex D.4 paragraph 14

The following text is proposed to replace “Arithmetic value conversions in Fortran are always explicit...” to “... all of the lbl_s are labels for formats”.

Arithmetic value conversions in Fortran can be explicit or implicit. Where they are explicit, the conversion function is named like the target type, except when converting to and from string formats. Conversion between numeric and string formats is achieved by using read and write statements with the string variable used as an 'internal file'.

<i>convert_{I→I'}(x)</i>	int (<i>x</i> , <i>kindi2</i>)	*
<i>convert_{I'→I}(s)</i>	read (<i>s</i> , '(Bn)') <i>x</i>	* (binary)
<i>convert_{I→I'}(x)</i>	write (<i>s</i> , '(Bn)') <i>x</i>	*
<i>convert_{I'→I}(s)</i>	read (<i>s</i> , '(On)') <i>x</i>	* (octal)
<i>convert_{I→I'}(x)</i>	write (<i>s</i> , '(On)') <i>x</i>	*
<i>convert_{I'→I}(s)</i>	read (<i>s</i> , '(In)') <i>x</i>	* (decimal)
<i>convert_{I→I'}(x)</i>	write (<i>s</i> , '(In)') <i>x</i>	*
<i>convert_{I'→I}(s)</i>	read (<i>s</i> , '(Zn)') <i>x</i>	* (hexadecimal)
<i>convert_{I→I'}(x)</i>	write (<i>s</i> , '(Bn)') <i>x</i>	*
<i>floor_{F→I}(y)</i>	floor (<i>y</i> , <i>kindi</i> ?)	*
<i>rounding_{F→I}(y)</i>	rounding (<i>y</i> , <i>kindi</i> ?)	†
<i>ceiling_{F→I}(y)</i>	ceiling (<i>y</i> , <i>kindi</i> ?)	*

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<i>convert</i> _{I→F} (<i>x</i>)				real (<i>x</i> , <i>kind</i>) or sometimes db1e (<i>x</i>)	*	
<i>convert</i> _{F→F'} (<i>y</i>)				real (<i>y</i> , <i>kind2</i>) or sometimes db1e (<i>y</i>)	*	
<i>convert</i> _{F''→F} (<i>s</i>)			read (<i>s</i> , <i>fmt</i>) <i>y</i>		*	
<i>convert</i> _{F→F''} (<i>y</i>)			write (<i>s</i> , <i>fmt</i>) <i>y</i>		*	
<i>convert</i> _{D'→F} (<i>s</i>)			read (<i>s</i> , <i>fmt</i>) <i>y</i>		*	

where *x* is an expression of type **integer (kind=kindi)**, *y* is an expression of type **real (kind=kind)**, *s* is a string variable, *w*, *d*, and *e* are literal digit (0-9) sequences, giving total, decimals, and exponent widths, *fmt* is one of

- '(F*w*.*d*)'
- '(D*w*.*d*)'
- '(E*w*.*d*)'
- '(E*w*.*d*E*e*)'
- '(E*N**w*.*d*)'
- '(E*N**w*.*d*E*e*)'
- '(E*S**w*.*d*)'
- '(E*S**w*.*d*E*e*)'

--- end of replacement text ---

1 **MB** = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

2 **Type of comment:** **ge** = general **te** = technical **ed** = editorial

NOTE Columns 1, 2, 4, 5 are compulsory.