

## Summary of changes from 5-August-99 to 18-August-99

- Spelling and grammar corrections.

## Summary of changes from 29-July-99 to 5-August-99

- Changed algorithms in 11.1.4 and 11.1.5 to use `[[Get]]` and `[[Put]]` instead of member access and `PutValue`.
- Clarified that implementations may extend regular expression syntax; section 2.
- Corrected the algorithm in 12.10 to deal with exceptions immediately after evaluating the statement rather than after removing the object from the scope chain.
- Replaced "implementation-defined" code/functions with "adjunct" code/functions and changed the definition of these entities, in sections 10.1.1, 10.1.2, 10.1.3, 10.1.6, 10.1.8, 10.2.3 10.2.4.
- Added `VariableDeclarationNoIn` to 10.1.3.
- Removed "scope chain is destroyed" from 10.1.4.
- Removed description of how **with** statements work from 10.1.4 (described elsewhere) and added that only **with** and **catch** affect the scope chain within an execution context.
- Added additional text about when an execution context is entered and exited to section 10.2.
- Changed 10.2.2 to say that **catch** clauses also affect the scope chain (as well as **with** statements).
- Tightened up the "consistent compare function" requirements in 15.4.4.11 to require total ordering of equivalence classes.
- Tightened up the specification of `localeCompare` in 15.5.4.9 to require that it be a consistent comparison function (except that it is a method with one parameter, not a function with two parameters).
- Made it explicit that the argument to `Number.prototype.toFixed` is optional.
- Removed the second algorithm in 11.12, relying on the text description of the "NoIn" production as is done for other "NoIn" productions.
- Replaced section 16, including descriptions of when implementations are allowed to extend behaviour instead of throwing exceptions.
- Changed 15.1.2.1 to make `EvalError` exceptions optional (should this be implementation-defined behaviour instead?)
- Changed 15.7.4.5, 15.7.4.6, 15.7.4.7 to allow an implementation to define behaviour for out-of-range values of *fractionDigits* or *precision* instead of throwing `RangeError`. (Should this be implementation-defined behaviour instead?)
- Changed description of `Object.prototype.valueOf` in 15.2.4.4 to clarify handling of host objects.
- Deleted step 5 of the `[[CanPut]]` algorithm in 8.6.2.3.
- Various typographical, spelling and grammar corrections.

## Summary of changes from 8-July-99 to 28-July-99

- Added new Annex A with all of the grammar productions, cross-referenced to defining sections.
- Minor fixes such as typos, spelling and small wording changes, many sections.
- Added "and semantics" to 2.
- Deleted normative reference ISO/IEC 646 IRV:1991 in 3.
- Added Error objects to descriptions in 4.2.
- Clarified references to `Object`, `String` etc. by capitalising them when they refer to an object whose class is "Object", "String", etc.; sections 4.2.1, 4.3.4, 4.3.18, 9.9, 10.1.1, 10.1.8, 10.2.3, 11.9.3, 15, 15.3.1, 15.3.5.3, 15.3.5.4, 15.4.1, 15.4.2.2, 15.5.1.1, 15.5.4, 15.5.4.2, 15.5.4.4, 15.5.4.7, 15.5.4.8, 15.5.4.10, 15.5.4.11, 15.5.4.12, 15.5.4.14, 15.5.4.15, 15.5.5, 15.5.5.1, 15.6.1.1, 15.6.2.1, 15.6.4, 15.7.1.1, 15.7.3, 15.7.3.2, 15.7.3.4.
- Clarified that nonterminals in the grammar are all from ASCII in 5.1.5.

- Fixed definition of "modulo" in 5.2.
- Clarified the handling of exceptions in algorithms in 5.2.
- Added regular expressions to discussions of string literals in 0.
- Deleted redundant paragraph about code points in 0.
- Cleaned up some wording in 0.
- Clarified handling of Unicode format-control characters in 7.1.
- Clarified wording of "Category Zs" in 7.2.
- Removed comments in grammar, adding new productions as needed to make the meaning clear; sections 7.2, 7.6, 9.3.1.
- Moved keyword "do" from 7.5.3 to 7.5.2.
- Added === and !== to 7.7.
- Changed phrases such as "UTF-16 value" to "code point value", sections 7.8.4, 8.4, 11.8.5, 11.9.3, 15.1.3, 15.5.3.2, 15.5.4.5, B.1.1, B.1.2.
- Added missing [lookahead] in reference to OctalEscapeSequence production in 7.8.4.
- Changed phrases such as "object of type RegExp" to "RegExp object" since these phrases are really referring to the [[Class]], not type; sections 7.8.5, 15.5.4.10, 15.5.4.11, 15.5.4.12, 15.5.4.14.
- Added "new RegExp" as way to create RegExp object in 7.8.5.
- Moved restricted production summary in 7.9.1 to a note and added missing productions.
- Changed "value of type Undefined" to "the value undefined" in 8.1, 12.9, 15.1.1.3
- Replaced list of exceptions (toUpperCase, toLowerCase, localeCompare) with "except as otherwise stated" in 8.4.
- Replace "operating system", "underlying environment", etc. with "host environment" in 8.6.1, 15.5.4.9, 15.9.5.8,
- Deleted redundant sentence in 8.6.2.
- Changed [[Closure]] to [[Scope]] in 8.6.2, 10.2.3, 13, 13.1, 15.3.2.1,
- Clarified wording of required internal properties in 8.6.2.
- Noted open issue in 8.6.2.3.
- Rename "iarg" to "arg" in 10.1.8.
- Fixed errors in the copies of productions in 11.1.4, 11.1.5, 11.3.1, 11.3.2,
- Fixed exception propagation descriptions in 11.2.2, 11.2.3, 12.1, 12.10, 12.13, 12.14, 15.1.2.1,
- Added descriptions of algorithms for "Noln" productions, "in the same manner...", in 11.12, 11.13, 11.14, 12.2,
- Added "function" to the set of tokens not allowed in the lookahead set in 12.4.
- Changed the grammar for "for (var ... in ...)" to use *VariableDeclarationNoln* instead of *Identifier Initialiser<sub>opt</sub>* and changed the wording of the algorithm accordingly in 12.6 and 12.6.4.
- Changed the first expression in a three-expression for from Expression to ExpressionNoln and changed the wording of the algorithm accordingly in 12.6.3.
- Remove CatchList from 12.14.
- Fix incorrect algorithm return values in 12.14 (two places).
- Remove "opt" from *FormalParameterList<sub>opt</sub>* where appropriate in 13, 13.1.
- Clarify copying of the scope chain in 13.1.
- Added description of behaviour when too many arguments are passed to a clause 15 function; section 15.
- Changed description of [[Prototype]] properties in 15.
- Clarified usual value of length property for functions with optional arguments in 15.
- Added and/or moved specification of values of length properties in 15.1.2.2, 15.2.3, 15.3.3, 15.3.4.3, 15.3.4.4, 15.4.3, 15.4.4.4, 15.4.4.5, 15.4.4.7, 15.4.4.10, 15.4.4.12, 15.4.4.13, 15.5.3, 15.5.3.2, 15.5.4.6, 15.5.4.7, 15.5.4.8, 15.5.4.13, 15.5.4.14, 15.5.4.15, 15.6.3, 15.7.3, 15.7.4.2, 15.9.4, 15.9.4.3, 15.9.5.30, 15.9.5.31, 15.9.5.32, 15.9.5.33, 15.9.5.34, 15.9.5.35, 15.9.5.38, 15.9.5.39, 15.9.5.40, 15.9.5.41, 15.10.5, 15.11.3, B.1.3.
- Corrected handling of surrogate pairs and UTF-8 transformations in 15.1.3.
- Rename "URLError" to "URIError" in 15.1.3,
- Removed "%" from the set of "as if reserved" characters in 15.1.3.
- Add all "Error" variants to 15.1.4.
- Added note about Object.prototype.toLocaleString to 15.2.4.3.
- Changed "hasProperty" to "hasOwnProperty" in 15.2.4.5.

- Added note about not looking at prototype chain in 15.2.4.5, 15.2.4.7.
- Added description of value of `[[Prototype]]` property for the Function constructor.
- Added `[[Scope]]` to 15.3.5.
- Clarified the description of array lengths in 15.4.
- Changed `ArrayLengthError` to `RangeError` in 15.4.2.2, 15.4.5.1,
- Merged description of conditions under which the behaviour of `sort` is implementation-defined to 15.4.4.11.
- Clarified description of `localeCompare` behaviour, including total ordering requirement, in 15.5.4.9.
- Added note that `localeCompare` is generic, 15.5.4.9.
- Add notes that `toLocaleLowerCase` and `toLocaleUpperCase` are generic, 15.5.4.17 and 15.5.4.19.
- Clarify that calling `Boolean` method on non-Boolean object throws `TypeError` to 15.6.4.
- Added explanation about use of `NaN`, `-0`, `+0`, `-∞`, `+∞` to 15.8.2.
- Changed "the argument *x*" to "*x*" (italic) throughout 15.8.2 for consistency with other algorithms.
- Moved `Date.prototype.toGMTString` (was 15.9.5.43) to Annex B.
- Changed the infinite-repeat handling for quantifiers of the form "`{0,}`" in 15.10.2.5.
- Changed 15.10.2.8 to remove backtracking from `(?=`.
- Changed "Exception Objects" to "Error Objects" in 15.11 (throughout).
- Removed restriction on `[[Class]]` of objects used with `ErrorXXX` objects, making the methods generic, in section 15.11.4.
- Put the Error object descriptions in alphabetical order in section 15.11.6.
- Clarified the notes in B.1.4 and B.1.5.
- Added numeric formatting methods as 15.7.4.5, 15.7.4.6, 15.7.4.7; note that extra argument behaviour is undefined, not implementation-defined, according to section 15.

### Summary of changes from 19-May-99 to 7-July-99

- Merged regular expression changes to 5.1.2, 5.1.5, 07.7, 7.8.4, 7.8.5, 8.6.2, 15.1.4.8, 15.5.4.10, 15.5.4.11, 15.5.4.12, 15.5.4.14, 15.10 (all), 15.5.4.10, 15.5.4.11, 15.5.4.12
- Merged Array and Object literals changes to 11.1, 11.1.4, 11.1.5, and 12.4.
- Merged runtime error changes to 5.2, 7.9.1, 8.6.2, 8.6.2.6, 8.7.1, 8.7.2, 8.7.3, 8.7.4, 9.1, 9.9, 11.2.2, 11.2.3, 11.8.6, 11.8.7, 12.13, 15.1.2.1, 15.1.4.9, 15.3.2.1, 15.3.4.2, 15.3.4.3, 0, 15.3.5.4, 15.4.2.2, 15.4.4.2, 15.4.4.3, 15.4.5.1, 15.5.4.2, 15.5.4.3, 15.6.4, 15.6.4.2, 15.6.4.3, 15.7.4, 15.7.4.2, 15.7.4.4, 15.9.5, 15.9.5.9, 15.9.5.27, 15.11 (all), 0
- Reworded description of internal properties in 8.6.2.
- Added note that `Object.prototype.toString` effectively gives the value of `[[Class]]`.
- Merge URI handling function changes to 15.1.3 (all).
- Added "non-generic" notes to `Array.prototype.toLocaleString` in 15.4.4.3.
- Changed "result is implementation-defined" to "behaviour is implementation-defined" in 15.4.4.11.
- Merged `String.prototype.localeCompare` as section 15.5.4.9.
- Added text to say that none of the Date functions are generic, in 15.9.5; removed text saying that `toString` (15.9.5.2) and `valueOf` (15.9.5.8) are not generic.
- Added `Date.prototype.toString`, `toLocaleDateString` and `toLocaleTimeString`, sections 15.9.5.3, 15.9.5.4, 15.9.5.6 and 15.9.5.7. Reworded `toString` in 15.9.5.2 so that wording could be consistent for these six functions. Moved `toLocaleString` (15.9.5.5) to start to group with `toString`.
- Minor editorial cleanups.

### Summary of changes from 27-April-99 to 18-May-99

- Merged remainder of `i18n` changes to sections 2, 0, 7.1, 7.2, 7.3, 7.6, 8.4, 0, 15.2.4.3, 15.4.4.2, 0, 15.5.4.16, 15.5.4.18, 15.5.4.16, 15.5.4.18, 15.7.4.3, 15.9.5.3.
- Removed duplicated sections accidentally added after **Error! Reference source not found.**; no change marks for this change.
- Added note to 15.9.5.2 to say that `Date.prototype.parse(d.toString())` should yield `d`.

- Changed definition of “string value” to be a sequence of 16-bit unsigned integers.
- Changed definition of “string type” to rely on definition of “string value”.
- Added definition of *DecimalDigit* to 7.8.3 since the changes to 7.6 removed its definition there.
- Removed definition of *HexDigit* from 7.8.3 since the changes to 7.6 added its definition there.
- Made the changes to 7.8.3 to clarify input element boundaries, e.g. “3in” is an error.
- Removed uses of “we” in 7.8.4 and as part of merging the i18n changes.
- Clarified the wording of “Unicode value” and similar terms in 7.8.4, 11.8.5, 15.5.4.5, **Error! Reference source not found.**, **Error! Reference source not found.**.
- Clarified list of non-encoded characters in **Error! Reference source not found.**.
- Removed *CatchGuard* and its semantics and description from 12.14.
- Removed a misleading change made to 15.1.2.3.
- Fixed various typos, spelling and formatting problems; no change marks for these changes.

### Summary of changes from 8-Jan-99 to 27-April-99

- Updated Unicode version to 2.1 and added new references.
- Merged subset of i18n changes to sections 0, 0, 7.3, 0, 11.8.5, 11.9.3, **Error! Reference source not found.** and 15.5.4.18.
- Moved keywords *case*, *catch*, *default*, *finally*, *switch*, *throw* and *try* from 7.5.3 to 7.5.2.
- Merged the nested function changes to sections 8.6.2, 0, 11.2, 12.9, 0, 15.3.2.1, 15.3.5.3
- Added attributes to *Nan* and *Infinity* in 15.1.1.1 and 15.1.1.2; added *undefined* as 15.1.1.3.
- Restored *eval* to edition 2 semantics, 15.1.2.1.
- Renamed *hasDelegate* to *isPrototypeOf*.
- Added *apply* and *call*, 15.3.4.3 and 0.
- Fixed problem in *[[HasInstance]]* in 15.3.5.4.
- Moved *Date.prototype.getYear()* to **Error! Reference source not found.**.
- Combined more function descriptions using optional-argument notation.
- Minor editorial cleanups.

### Summary of changes from 14-Oct-98 to 8-Jan-99

- Added text to resolve “\00” lexical ambiguity, section 7.8.4.
- Merged “InstanceOf” proposal, sections 7.5.2, 7.5.3, 8.6.2, 11.8, 11.8.6, 11.8.7, 11.9, 11.10, 11.11, 11.12, 11.13, 11.14, 12.2, 12.6,
- Added *Null* and *Undefined* cases to strict equality comparison, section 11.9.6.
- Clarified description of exception propagation, sections 12.1, 12.10, 12.14
- Clarified that *continue* and *break* may not cross function boundaries, sections 12.7, 12.8.
- Fixed typo (step 6 => step 7) in section 12.14, third algorithm, step 3.
- Moved *escape()*, *unescape()*, *String.prototype.substr()* and *Date.prototype.setYear()* to Annex A.
- Added *Object.prototype.hasProperty()*, section 15.2.4.5.
- Added *Object.prototype.hasDelegate()*, section 15.2.4.6.
- Added *Object.prototype.propertyIsEnumerable()*, section 15.2.4.7.
- Added *Function* instance property *[[HasInstance]]*, section 15.3.5.3.
- Merged changes to *Array.prototype.concat()*, section 15.4.4.4.
- Changed *Array.prototype.reverse()* (section 15.4.4.8), *Array.prototype.shift()* (section 15.4.4.9) and *Array.prototype.unshift()* (section 15.4.4.13) so that missing elements in an *Array* are preserved in the transformed array.
- Merged changes to *Array.prototype.slice()*, section 15.4.4.10.
- Merged changes to *Array.prototype.sort()*, section 15.4.4.11.
- Merged changes to *Array.prototype.splice()*, section **Error! Reference source not found.**.
- Merged changes to *max()* and *min()*, sections 15.8.2.11 and 0.

- Minor typos corrected, various sections, no change bars.

### **Summary of changes from base to 14-Oct-98**

- Resolved differences between published ECMA version and last TC39 draft (cross-references, punctuation, etc.)
- Added changes for ballot comments U1.50, J-E4 / N4 / U1.1#2, N6, J-E5, U1.4, N20, J-E14, E7, J-E22, J-E24, E14, (but not N11, D8, J-E23, D-11, D-12, D-13).
- Added do-while, switch, throw, try, labels, and exception-based error handling.
- Added \v escape for vertical tab.
- Added strict equality operators.
- Added { DontDelete, ReadOnly } to length property in Function instances.
- Added { DontDelete } to prototype property in Function instances.
- Added new functions: Array.prototype.concat, Array.prototype.pop, Array.prototype.push, Array.prototype.slice, Array.prototype.splice, Array.prototype.unshift, String.prototype.concat, String.prototype.slice,
- Text added to 15.8.2
- Combined variants of methods when the only difference was the presence of argument(s) for which default values are supplied.
- Fixed inconsistency between Date constructor and Date.UTC for two-argument case.
- Fixed algorithm on one of the new functions.
- Fixed step 4 of do-while (“ go to 2” => “ go to 7” ).