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Kannada script - Wikipedia

15-19 minutes

Kannada script	
ಕನ್ನಡ ಲಿಪಿ	
Type	Abugida
Languages	Kannada Tulu Kodava Badaga Beary Sanketi Konkani Sanskrit
Time period	5th century–present ^[1]
Parent systems	<div>Proto-Sinaitic script^[a]<ul style="list-style-type: none">Phoenician alphabet^[a]Aramaic alphabet^[a]Brahmi script^[a]Kadamba alphabet</div> <div>Kannada script</div>
Sister systems	Telugu Sinhala Mon
Direction	Left-to-right
ISO 15924	Knda, 345
Unicode alias	Kannada
Unicode range	U+0C80–U+0CFF
<div>[a] The Semitic origin of the Brahmic scripts is not universally agreed upon.</div>	
<div>This article contains IPA phonetic symbols. Without proper rendering support, you may see question marks, boxes, or other symbols instead of Unicode characters. For an introductory guide on IPA symbols, see Help:IPA.</div>	

Brahmic scripts	
The Brahmic script and its descendants	
Northern Brahmic	[show]
Southern Brahmic	
• v	
• t	
• e	

The **Kannada script** (ⁱ^{IAST}: *Kannaḍa lipi*) is an ^a^{abugida} of the ^B^{Brahmic family},^[2] used primarily to write the ^K^{Kannada} language, one

of the [Dravidian languages](#) of [South India](#) especially in the state of [Karnataka](#), Kannada script is widely used for writing [Sanskrit](#) texts in Karnataka. Several minor languages, such as [Tulu](#), [Konkani](#), [Kodava](#), [Sanketi](#) and [Beary](#), also use alphabets based on the Kannada script.^[3] The Kannada and [Telugu scripts](#) share high mutual intelligibility with each other, and are often considered to be regional variants of single script. Other scripts similar to Kannada script are [Sinhala script](#)^[4] (which included some elements from the [Kadamba script](#)^[5]), and Old [Peguan](#) script (used in [Burma](#)).^[6]

The Kannada script (ಅಕ್ಷರಮಾಲೆ *akṣaramāle* or ವರ್ಣಮಾಲೆ *varṇamāle*) is a [phonemic](#) abugida of forty-nine letters, and is written from left to right. The character set is almost identical to that of other [Brahmic scripts](#). Consonantal letters imply an [inherent vowel](#). Letters representing consonants are combined to form digraphs (ಒತ್ತಕ್ಷರ *ottakṣara*) when there is no intervening vowel. Otherwise, each letter corresponds to a [syllable](#).

The letters are classified into three categories: ಸ್ವರ *svara* ([vowels](#)), ವ್ಯಂಜನ *vyañjana* ([consonants](#)), and ಯೋಗವಾಹಕ *yōgavāhaka* ([semiconsonants](#)).

The Kannada words for a letter of the script are ಅಕ್ಷರ *akshara*, ಅಕ್ಷರ *akkara*, and ವರ್ಣ *varṇa*. Each letter has its own form (ಆಕಾರ *ākāra*) and sound (ಶಬ್ದ *śabda*), providing the visible and audible representations, respectively. Kannada is written from left to right.^[7]

History^[edit]

The Kannada script derives from the Old Kannada script,^[8] which evolved around 10th century as the continuation of the [Kadamba alphabet](#) of the fourth century.^[9] This evolved from the ancient [Brahmi script](#) of the third century BCE.



Halmidi Inscription Replica

This is debated as recent excavation has led to Talagunda inscription of 370 AD^[10] to be the oldest available. Over the centuries some changes have been made to the Kannada script. These changes consist of:

- Modification of existing glyphs: In the early Kannada script, no orthographic distinction was made between the short mid [e, o] ಎ, ಓ and long mid [eː, oː] ಏ, ಔ. However, distinct signs were employed to denote the special consonants viz. the trill [r] ಳ the retroflex lateral [ɭ] ಳ್ and the retroflex rhotic [ɻ] ಳ found only in South Indian languages, by the 5th century.^[dubious – discuss]^[the transcriptions contradict themselves]
- Introduction of new characters: Kannada script includes characters like [ɕ] ಷ, [rɪː] ಋ, [liː] ೠ, [e] ಏ, [oː] ಔ, [am] ಅಂ, [ah] ಅಃ, and mahāprāṇa characters like [kʰ] ಖ, [ɡʱ] ಘ, [tʃʱ] ಛ, [dʒʱ] ಝ, [tʰ] ಥ, [dʱ] ಧ, [tʰ] ಥ, [dʱ] ಧ, [pʰ] ಫ, [bʰ] ಭ. The introduction was done so that [Sanskrit](#) (and loanwords into the Kannada language from the donor language Sanskrit) could be written using the Kannada script.

These changes have facilitated the use of the Kannada script for writing many of the literary Indic languages, including Sanskrit.

Obsolete Kannada letters^[edit]



Historical form of representing ಃ in Kannada script.

Kannada literary works employed the letters ಃ (transliterated 'ɽ' or 'rh') and ಃ (transliterated 'ɽ', 'lh' or 'zh'), whose manner of articulation most plausibly could be akin to those in present-day [Malayalam](#) and [Tamil](#). The letters dropped out of use in the 12th and 18th centuries, respectively. Later Kannada works replaced 'rh' and 'lh' with ರ (ra) and ಲ (la) respectively.^[11]

Another letter (or unclassified *vyanjana* (consonant)) that has become extinct is 'nh' or 'inn'. ಩ Likewise, this has its equivalent in [Telugu](#), where it is called *Nakaara pollu*. The usage of this consonant was observed until the 1980s in Kannada works from the mostly coastal areas of Karnataka (especially the [Dakshina Kannada](#) district). Now, hardly any mainstream works use this consonant. This letter has been replaced by ನ್ (consonant n).^[citation needed]

Kannada script evolution^[edit]

The image below shows the evolution of Kannada script^[12] from prehistoric times to the modern period. The Kannada script evolved in stages:

Proto-Kannada → Pre-Old Kannada → Old Kannada → Modern Kannada.

The Proto-Kannada script has its root in ancient [Brahmi](#) and appeared around the 3rd century BC. The Pre-Old-Kannada script appeared around the 4th century AD. Old-Kannada script can be traced to around the 10th century AD, whereas Modern-Kannada script appeared around the 17th century AD.

Vowel letters^[edit]

There are thirteen vowel letters (ಸ್ವರ *svara*) (14, if we consider obsolete vowel ಷೂ).



Letter	Diacritic	ISO notation	Letter	Diacritic	ISO notation
ಅ	N/A	a	ಆ	ಾ	ā
ಇ	ಿ	i	ಈ	ೀ	ī
ಉ	ು	u	ಊ	ೂ	ū
ಋ	ೃ	r/ṛ	ಷೂ (obsolete)	ೃ	ṛ/ṝ
ಎ	ೆ	e	ಏ	ೇ	ē
ಐ	ೈ	ai			
ಒ	ೊ	o	ಓ	ೋ	ō
ಔ	ೌ	au			

When a vowel follows a consonant, it is written with a diacritic rather than as a separate letter.

Yōgavāha^[edit]

The *Yōgavāha* (part-vowel, part consonant) include two letters:

1. The [anusvara](#): ಅಂ (*am*)
2. The [visarga](#): ಅಃ (*ah*)

Another two *Yōgavāha* used in [Sanskrit](#), but present in Kannada script, are known as *Ardhavisarga*:

1. The Jihvamuliya: ऌ
2. The Upadhmaniya: ॡ

Consonant letters^[edit]

Two categories of consonant letters (ವ್ಯಂಜನ *vyañjana*) are defined in Kannada: the **structured consonants** and the **unstructured consonants**.

Structured consonants^[edit]

The structured consonants are classified according to where the tongue touches the palate of the mouth and are classified accordingly into five structured groups. These consonants are shown here with their [IAST](#) transcriptions.

	voiceless	voiceless aspirate	voiced	voiced aspirate	nasal
Velars	ಕ (ka)	ಖ (kha)	ಗ (ga)	ಘ (gha)	ಙ (ṅa)
Palatals	ಚ (ca)	ಛ (cha)	ಜ (ja)	ಝ (jha)	ಞ (ña)

See [place of articulation](#) for more information on tongue positions.

Unstructured consonants[\[edit\]](#)

The unstructured consonants are consonants that do not fall into any of the above structures:

ಯ (ya), ರ (ra), ಅ (ra) (obsolete), ಲ (la), ವ (va), ಶ (śa), ಷ (ṣa), ಸ (sa), ಹ (ha), ಳ (ḷa), ಳ (ḷ) (obsolete).

Consonant conjuncts[[edit](#)]

The Kannada script is rich in conjunct consonant clusters, with most consonants having a standard subjoined form and few true ligature clusters. A table of consonant conjuncts follows, although the forms of individual conjuncts may differ according to font.

Consonant conjuncts with ष (ra)[\[edit\]](#)

Of special note is the sequence concerning the letter *ṣ* (ra). Unlike other letters, the conjunct form is written second even if it is pronounced first in the sequence.

For example, the /rna/ in the word *Karnāṭaka* (ಕರ್ನಾಟಕ) is written ನಾ rather than ರ್ನಾ.

Consonant conjuncts with nasal consonants[[edit](#)]

The nasal consonants ङ (ṅa), ञ (ña), ṇ (ṇa), न (na), and म (ma) are usually written as an [anusvara](#) ◌ं when preceding another consonant rather than a consonant conjunct.

For example, the /ŋg/ in the word *Bengalūru* (ಬೆಂಗಳೂರು) is usually written ಂಗ rather than ಜ್ಙ (ಬೆಜ್ಙಲೂರು).

Pronunciation of letters[\[edit\]](#)

Writing order[[edit](#)]

Akshara[[edit](#)]

Written Kannada is composed of [akshara](#) or *kagunita*, corresponding to syllables. The letters for consonants combine with diacritics for vowels. The consonant letter without any diacritic, such as ಕ *ka*, has the inherent vowel *a* ಅ. This is called ದೀರ್ಘ *dīrgha*. A consonant without a vowel is marked with a 'killer' stroke, such as ಕ್ಕ *k*. This is known as ಹ್ರಸ್ವ *hrasva*.

4 sur 8

ದಿ	(ಎ, ಏ)	ದೆ	/de/
ದೇ	(ಐ, ಠ)	ದೇ	/de:/
ದೈ	(ಐ, ai)	ದೈ	/dai/
ದೊ	(ಒ, ಠ)	ದೊ	/do/
ದೋ	(ಓ, ಠ)	ದೋ	/do:/
ದೌ	(ಔ, au)	ದೌ	/dau/
ದಂ	(ಅಂ, am)	ದಂ	/dā/
ದಃ	(ಅಃ, ah)	ದಃ	/dah/

1. This diacritic has the form ಿ when combined with other consonant letters.

ಅ	ಆ	ಇ	ಈ	ಉ	ಊ	ಋ	ೠ	ಎ	ಏ	ಐ	ಒ	ಓ	ಔ	ಅಂ	ಅಃ	—
ಕ	ಕಾ	ಕಿ	ಕೇ	ಕು	ಕೂ	ಕೃ	ಕೃ	ಕೆ	ಕೇ	ಕೈ	ಕೊ	ಕೋ	ಕೌ	ಕಂ	ಕಃ	ಕ್
ಖ	ಖಾ	ಖಿ	ಖೇ	ಖು	ಖೂ	ಖೃ	ಖೃ	ಖೆ	ಖೇ	ಖೈ	ಖೊ	ಖೋ	ಖೌ	ಖಂ	ಖಃ	ಕ್ಷ
ಗ	ಗಾ	ಗಿ	ಗೇ	ಗು	ಗೂ	ಗೃ	ಗೃ	ಗೆ	ಗೇ	ಗೈ	ಗೊ	ಗೋ	ಗೌ	ಗಂ	ಗಃ	ಗ್
ಘ	ಘಾ	ಘಿ	ಘೇ	ಘು	ಘೂ	ಘೃ	ಘೃ	ಘೆ	ಘೇ	ಘೈ	ಘೊ	ಘೋ	ಘೌ	ಘಂ	ಘಃ	ಘ್
ಙ	ಙಾ	ಙಿ	ಙೇ	ಙು	ಙೂ	ಙೃ	ಙೃ	ಙೆ	ಙೇ	ಙೈ	ಙೊ	ಙೋ	ಙೌ	ಙಂ	ಙಃ	ಙ್
ಚ	ಚಾ	ಚಿ	ಚೇ	ಚು	ಚೂ	ಚೃ	ಚೃ	ಚೆ	ಚೇ	ಚೈ	ಚೊ	ಚೋ	ಚೌ	ಚಂ	ಚಃ	ಚ್
ಛ	ಛಾ	ಛಿ	ಛೇ	ಛು	ಛೂ	ಛೃ	ಛೃ	ಛೆ	ಛೇ	ಛೈ	ಛೊ	ಛೋ	ಛೌ	ಛಂ	ಛಃ	ಛ್
ಜ	ಜಾ	ಜಿ	ಜೇ	ಜು	ಜೂ	ಜೃ	ಜೃ	ಜೆ	ಜೇ	ಜೈ	ಜೊ	ಜೋ	ಜೌ	ಜಂ	ಜಃ	ಜ್
ಝ	ಝಾ	ಝಿ	ಝೇ	ಝು	ಝೂ	ಝೃ	ಝೃ	ಝೆ	ಝೇ	ಝೈ	ಝೊ	ಝೋ	ಝೌ	ಝಂ	ಝಃ	ಝ್
ಞ	ಞಾ	ಞಿ	ಞೇ	ಞು	ಞೂ	ಞೃ	ಞೃ	ಞೆ	ಞೇ	ಞೈ	ಞೊ	ಞೋ	ಞೌ	ಞಂ	ಞಃ	ಞ್
ಟ	ಟಾ	ಟಿ	ಟೇ	ಟು	ಟೂ	ಟೃ	ಟೃ	ಟೆ	ಟೇ	ಟೈ	ಟೊ	ಟೋ	ಟೌ	ಟಂ	ಟಃ	ಟ್
ಠ	ಠಾ	ಠಿ	ಠೇ	ಠು	ಠೂ	ಠೃ	ಠೃ	ಠೆ	ಠೇ	ಠೈ	ಠೊ	ಠೋ	ಠೌ	ಠಂ	ಠಃ	ಠ್
ಡ	ಡಾ	ಡಿ	ಡೇ	ಡು	ಡೂ	ಡೃ	ಡೃ	ಡೆ	ಡೇ	ಡೈ	ಡೊ	ಡೋ	ಡೌ	ಡಂ	ಡಃ	ಡ್
ಢ	ಢಾ	ಢಿ	ಢೇ	ಢು	ಢೂ	ಢೃ	ಢೃ	ಢೆ	ಢೇ	ಢೈ	ಢೊ	ಢೋ	ಢೌ	ಢಂ	ಢಃ	ಢ್
ಣ	ಣಾ	ಣಿ	ಣೇ	ಣು	ಣೂ	ಣೃ	ಣೃ	ಣೆ	ಣೇ	ಣೈ	ಣೊ	ಣೋ	ಣೌ	ಣಂ	ಣಃ	ಣ್
ತ	ತಾ	ತಿ	ತೇ	ತು	ತೂ	ತೃ	ತೃ	ತೆ	ತೇ	ತೈ	ತೊ	ತೋ	ತೌ	ತಂ	ತಃ	ತ್
ಥ	ಥಾ	ಥಿ	ಥೇ	ಥು	ಥೂ	ಥೃ	ಥೃ	ಥೆ	ಥೇ	ಥೈ	ಥೊ	ಥೋ	ಥೌ	ಥಂ	ಥಃ	ಥ್
ದ	ದಾ	ದಿ	ದೇ	ದು	ದೂ	ದೃ	ದೃ	ದೆ	ದೇ	ದೈ	ದೊ	ದೋ	ದೌ	ದಂ	ದಃ	ದ್
ಧ	ಧಾ	ಧಿ	ಧೇ	ಧು	ಧೂ	ಧೃ	ಧೃ	ಧೆ	ಧೇ	ಧೈ	ಧೊ	ಧೋ	ಧೌ	ಧಂ	ಧಃ	ಧ್
ನ	ನಾ	ನಿ	ನೇ	ನು	ನೂ	ನೃ	ನೃ	ನೆ	ನೇ	ನೈ	ನೊ	ನೋ	ನೌ	ನಂ	ನಃ	ನ್
ಪ	ಪಾ	ಪಿ	ಪೇ	ಪು	ಪೂ	ಪೃ	ಪೃ	ಪೆ	ಪೇ	ಪೈ	ಪೊ	ಪೋ	ಪೌ	ಪಂ	ಪಃ	ಪ್
ಫ	ಫಾ	ಫಿ	ಫೇ	ಫು	ಫೂ	ಫೃ	ಫೃ	ಫೆ	ಫೇ	ಫೈ	ಫೊ	ಫೋ	ಫೌ	ಫಂ	ಫಃ	ಫ್
ಬ	ಬಾ	ಬಿ	ಬೇ	ಬು	ಬೂ	ಬೃ	ಬೃ	ಬೆ	ಬೇ	ಬೈ	ಬೊ	ಬೋ	ಬೌ	ಬಂ	ಬಃ	ಬ್
ಭ	ಭಾ	ಭಿ	ಭೇ	ಭು	ಭೂ	ಭೃ	ಭೃ	ಭೆ	ಭೇ	ಭೈ	ಭೊ	ಭೋ	ಭೌ	ಭಂ	ಭಃ	ಭ್
ಮ	ಮಾ	ಮಿ	ಮೇ	ಮು	ಮೂ	ಮೃ	ಮೃ	ಮೆ	ಮೇ	ಮೈ	ಮೊ	ಮೋ	ಮೌ	ಮಂ	ಮಃ	ಮ್
ಯ	ಯಾ	ಯಿ	ಯೇ	ಯು	ಯೂ	ಯೃ	ಯೃ	ಯೆ	ಯೇ	ಯೈ	ಯೊ	ಯೋ	ಯೌ	ಯಂ	ಯಃ	ಯ್
ರ	ರಾ	ರಿ	ರೇ	ರು	ರೂ	ರೃ	ರೃ	ರೆ	ರೇ	ರೈ	ರೊ	ರೋ	ರೌ	ರಂ	ರಃ	ರ್
ಲ	ಲಾ	ಲಿ	ಲೇ	ಲು	ಲೂ	ಲೃ	ಲೃ	ಲೆ	ಲೇ	ಲೈ	ಲೊ	ಲೋ	ಲೌ	ಲಂ	ಲಃ	ಲ್

ಲ	ಲಾ	ಲಿ	ಲೀ	ಲು	ಲೂ	ಲ್ಯ	ಲ್ಯಾ	ಲೆ	ಲೇ	ಲ್ಕೆ	ಲೊ	ಲೋ	ಲೌ	ಲಂ	ಲಃ	ಲ್
ವ	ವಾ	ವಿ	ವೀ	ವು	ವೂ	ವ್ಯ	ವ್ಯಾ	ವೆ	ವೇ	ವೈ	ವೊ	ವೋ	ವೌ	ವಂ	ವಃ	ವ್
ಶ	ಶಾ	ಶಿ	ಶೀ	ಶು	ಶೂ	ಶ್ಯ	ಶ್ಯಾ	ಶೆ	ಶೇ	ಶೈ	ಶೊ	ಶೋ	ಶೌ	ಶಂ	ಶಃ	ಶ್
ಷ	ಷಾ	ಷಿ	ಷೀ	ಷು	ಷೂ	ಷ್ಯ	ಷ್ಯಾ	ಷೆ	ಷೇ	ಷೈ	ಷೊ	ಷೋ	ಷೌ	ಷಂ	ಷಃ	ಷ್
ಸ	ಸಾ	ಸಿ	ಸೀ	ಸು	ಸೂ	ಸ್ಯ	ಸ್ಯಾ	ಸೆ	ಸೇ	ಸೈ	ಸೊ	ಸೋ	ಸೌ	ಸಂ	ಸಃ	ಸ್
ಹ	ಹಾ	ಹಿ	ಹೀ	ಹು	ಹೂ	ಹ್ಯ	ಹ್ಯಾ	ಹೆ	ಹೇ	ಹೈ	ಹೊ	ಹೋ	ಹೌ	ಹಂ	ಹಃ	ಹ್
ಳ	ಳಾ	ಳಿ	ಳೀ	ಳು	ಳೂ	ಳ್ಯ	ಳ್ಯಾ	ಳೆ	ಳೇ	ಳೈ	ಳೊ	ಳೋ	ಳೌ	ಳಂ	ಳಃ	ಳ್
ಱ	ಱಾ	ಱಿ	ಱೀ	ಱು	ಱೂ	ಱ್ಯ	ಱ್ಯಾ	ಱೆ	ಱೇ	ಱೈ	ಱೊ	ಱೋ	ಱೌ	ಱಂ	ಱಃ	ಱ್

The formations shown **boldface** above are seldom used in the normal course of the language.

Numerals[edit]

The decimal numerals in the script are:

Kannada numerals		English numerals	
numeral	name	numeral	name
೦	sonne (ಸೊನ್ನೆ)	0	zero
೧	ondu (ಒಂದು)	1	one
೨	eraḍu (ಎರಡು)	2	two
೩	mūru (ಮೂರು)	3	three
೪	nāḷku (ನಾಲ್ಕು)	4	four
೫	aidu (ಐದು)	5	five
೬	āru (ಆರು)	6	six
೭	ēḷu (ಏಳು)	7	seven
೮	enṭu (ಎಂಟು)	8	eight
೯	oṃbattu (ಒಂಬತ್ತು)	9	nine
೧೦	hattu (ಹತ್ತು)	10	ten

Transliteration[edit]

Several [transliteration](#) schemes/tools are used to type Kannada characters using a standard keyboard. These include [Baraha](#)^[13] (based on [ITRANS](#)), [Pada Software](#)^[14] and several internet tools like Google transliteration, Quillpad^[15] (predictive transliterator). [Nudi](#), the Government of Karnataka's standard for Kannada Input, is a phonetic layout loosely based on transliteration.

In popular culture[edit]

Due to its resemblance to an eye and an eyebrow, the Kannada letter ಠ *ṭha* is used in the "look of disapproval" (displayed as "ಠ_ಠ"), a popular [emoticon](#) used to convey disapproval or contempt.^[16] Similarly, the akshara ರ್ಱ *ṛṛa* has been used in emoticons to represent a monocle, while ಥ *ṭha* has been used to represent a tearing eye.

Unicode[edit]

Kannada script was added to the [Unicode](#) Standard in October, 1991 with the release of version 1.0.

The Unicode block for Kannada is U+0C80–U+0CFF:

<div>Kannada^{[1][2]}</div> <div>Official Unicode Consortium code chart (PDF)</div>																
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
U+0C8x	೦	೧	೨	೩	೪	೫	೬	೭	೮	೯	೦	೧	೨	೩	೪	೫

U+0C9x	ಐ		ಒ	ಓ	ಔ	ಕ	ಖ	ಗ	ಘ	ಙ	ಚ	ಛ	ಜ	ಝ	ಞ	ಟ
U+0CAx	ಠ	ಡ	ಢ	ಣ	ತ	ಥ	ದ	ಧ	ನ		ಪ	ಫ	ಬ	ಭ	ಮ	ಯ
U+0CBx	ರ	ಲ	ಲೃ	ಲೄ	ವ	ಶ	ಷ	ಸ	ಹ			಼	ಽ	ಠ	ಠ	
U+0CCx	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ
U+0CDx						ಠ	ಠ								ಠ	
U+0CEx	ಐ	ಞ	ಞ	ಞ		ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ	ಠ
U+0CFx		ಠ	ಠ													
Notes <ol style="list-style-type: none"> ¹ As of Unicode version 13.0 ² Grey areas indicate non-assigned code points 																

See also[[edit](#)]

- [Pyu script](#)
- [Goykanadi](#)
- [Bhattiprolu script](#)
- [Kannada Braille](#)
- [Kannada grammar](#)
- [Kannada literature](#)
- [Kannada poetry](#)
- [Lari](#)
- [Official script](#)

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- ⁶ ↑ "*Telugu & Sinhalese script similarities*". Retrieved 7 May 2009.
- ⁷ ↑ A Grammar of the Kannada Language. F. Kittel (1993), p. 5
- ⁸ ↑ "*Old Kannada*". Retrieved 7 May 2009.
- ⁹ ↑ "*Kadamba*". Retrieved 7 May 2009.
- ¹⁰ ↑ "*Kannada inscription at Talagunda may replace Halmidi as oldest*". *Deccan Herald*. 12 January 2017.
- ¹¹ ↑ Rice, Edward. P (1921), "A History of Kannada Literature", Oxford University Press, 1921: 14–15
- ¹² ↑ "*Kannada script Evolution*". Official website of the *Central Institute of Indian Languages*, India. *Classickannada.org*. Archived from *the original* on 25 July 2011. Retrieved 12 May 2008.
- ¹³ ↑ "*Baraha – Free Indian Language Software*". *baraha.com*.
- ¹⁴ ↑ "*Pada Software – For Indic Scripts*". *pada.pro*.
- ¹⁵ ↑ "*QuillPad – Typing in Kannada has never been easier*". *Quillpad.in*. Archived from *the original* on 4 November 2008. Retrieved 7 November 2008.
- ¹⁶ ↑ "*Browser Extension of the Week: Look of Disapproval*". *Maximum PC*. Retrieved 24 April 2013.

External links[\[edit\]](#)

- *"[The Unicode Book: Chapter 9](#)" (PDF)*. Archived from *[the original](#)* (PDF) on 9 March 2013. Retrieved 23 March 2018. (634 KB) — South and Southeast Asian Scripts
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