

Preliminary proposal to encode Ranjana in Unicode

Anshuman Pandey

pandey@umich.edu
pandey.github.io/unicode

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1 Introduction

A few documents have been submitted for encoding the Ranjana script in the Unicode standard:

- L2/09-192: “Preliminary proposal for encoding the Rañjana script in the SMP of the UCS” (Michael Everson)
- L2/13-243: “Proposal to Encode Ranjana Script in ISO/IEC 10646” (Dev Dass Manandhar, Samir Karmacharya and Bishnu Chitrakar)
- L2/14-221: “Comparison between Ranjana proposals (L2/13-243 and L2/09-192)” (Deborah Anderson)
- L2/16-015: “Towards an encoding for the Ranjana and Lantsa scripts” (Anshuman Pandey)

These proposals provide valuable information regarding the basic aspects of an encoding for Ranjana. There are, however, several details that they do not address. This document extends the basic aspects with detailed descriptions of Ranjana’s character inventory, script grammar, and representations of consonant-vowel combinations and consonant conjuncts. It also provides an expansion of the proposed repertoire presented in L2/16-015. There are several other signs that are not described in this preliminary proposal, such as head marks, punctuation, editorial signs, musical notation signs, etc. I am conducting research on these signs, and I request feedback from experts.

2 Considerations for encoding the script

Scope An encoding for Ranjana must take into consideration the requirements for representing the Lantsa script, which is a variant used in Tibet, as well as a variety of regional styles. Ranjana is used in South and Central Asia for writing Sanskrit, as well as local languages, such as Newar. A style of the script is used in Mongolia, where it often appears as one of four or five scripts in Buddhist manuscripts. There is evidence that an additional style of the script was used in Korea. All of these styles are found in numerous sources encompassing inscriptions and manuscripts. Outside of Nepal and India it is known as ‘Lantsa’ or ‘Landza’, which is the Tibetan transcription of the name ‘Ranjana’.

Approach The encoding should unify the characters used in the Ranjana and Lantsa styles. There are alternate methods in Lantsa of representing semi-vowels in conjuncts, which do not occur in Ranjana. Contextual forms of these semi-vowels may need to be encoded. Similarly, there are invocation, punctuation, and other marks specific to each style that may have the same semantic value, but which have different graphical representations. These may require separate encodings. The block for Ranjana will be a superset of distinctive characters required for all styles.

Representative glyphs Although the basic characters of Ranjana and Lantsa have the same graphical structure, there are features that are definitive of each style. A determination is required regarding the style that will serve as the representative form.

Unification of Vartu A determination is required regarding whether or not to unify the script known as ‘Vartu’ / ‘Wartu’ / ‘Vartula’. This script is based upon Ranjana / Lantsa, but possesses a curved headstroke instead of a horizontal or wedge-like form. The approach towards Vartu may be similar to the case of Tibetan in Unicode, which unifies several styles.

3 Character Inventory

The script has 14 letters for representing the full set of Sanskrit vowels:

	<i>a</i>	<i>ā</i>	<i>i</i>	<i>ī</i>	<i>u</i>	<i>ū</i>
Ranjana	अ	आ	इ	ई	उ	ऊ
Lantsa	अ	आ	इ	ई	उ	ऊ
	<i>ṛ</i>	<i>ṝ</i>	<i>ḷ</i>	<i>ḹ</i>		
Ranjana	ऋ	ॠ	ॡ	ॢ		
Lantsa	ऋ	ॠ	ॡ	ॢ		
	<i>e</i>	<i>ai</i>	<i>o</i>	<i>au</i>		
Ranjana	ए	ऐ	ओ	औ		
Lantsa	ए	ऐ	ओ	औ		

It has a corresponding set of dependent signs for each vowel, except for *a*, which is the vowel inherent in each base consonant letter.

	<i>a</i>	<i>ā</i>	<i>i</i>	<i>ī</i>	<i>u</i>	<i>ū</i>
Ranjana	—	◌ा	◌ि	◌ी	◌ु	◌ू
Lantsa	—	◌ा	◌ि	◌ी	◌ु	◌ू

	<i>r̥</i>	<i>r̄</i>	<i>l̥</i>	<i>l̄</i>
Ranjana	◌ॄ	◌ॄ̄	◌ृ	◌ृ̄
Lantsa	◌ॄ	◌ॄ̄	◌ृ	◌ृ̄

	<i>e</i>	<i>ai</i>	<i>o</i>	<i>au</i>
Ranjana	◌े	◌ै	◌ो	◌ौ
Lantsa	◌े	◌ै	◌ो	◌ौ

There are the following signs, for representing nasalization and post-vocalic aspiration:

	<i>candrabindu</i>	<i>anusvara</i>	<i>visarga</i>
Ranjana	◌ँ	◌ं	◌ः
Lantsa	—	◌ं	◌ः

There is a set of consonant letters that covers the Sanskrit repertoire:

	<i>ka</i>	<i>kha</i>	<i>ga</i>	<i>gha</i>	<i>ṇa</i>
Ranjana	क	ख	ग	घ	ण
Lantsa	क	ख	ग	घ	ण

	<i>ca</i>	<i>cha</i>	<i>ja</i>	<i>jha</i>	<i>ña</i>
Ranjana	𑂑	𑂒	𑂓	𑂔	𑂕
Lantsa	𑂑𑂔	𑂒𑂔	𑂓𑂔	𑂔𑂔	𑂕𑂔
	<i>ṭa</i>	<i>ṭha</i>	<i>ḍa</i>	<i>ḍha</i>	<i>ṇa</i>
Ranjana	𑂖	𑂗	𑂘	𑂙	𑂚
Lantsa	𑂖𑂔	𑂗𑂔	𑂘𑂔	𑂙𑂔	𑂚𑂔
	<i>ta</i>	<i>tha</i>	<i>da</i>	<i>dha</i>	<i>na</i>
Ranjana	𑂛	𑂜	𑂝	𑂞	𑂟
Lantsa	𑂛𑂔	𑂜𑂔	𑂝𑂔	𑂞𑂔	𑂟𑂔
	<i>pa</i>	<i>pha</i>	<i>ba</i>	<i>bha</i>	<i>ma</i>
Ranjana	𑂡	𑂢	𑂣	𑂤	𑂥
Lantsa	𑂡𑂔	𑂢𑂔	𑂣𑂔	𑂤𑂔	𑂥𑂔
	<i>ya</i>	<i>ra</i>	<i>la</i>	<i>va</i>	
Ranjana	𑂦	𑂧	𑂨	𑂩	
Lantsa	𑂦𑂔	𑂧𑂔	𑂨𑂔	𑂩𑂔	
	<i>śa</i>	<i>ṣa</i>	<i>sa</i>	<i>ha</i>	
Ranjana	𑂪	𑂫	𑂬	𑂭	
Lantsa	𑂪𑂔	𑂫𑂔	𑂬𑂔	𑂭𑂔	

There is a full set of decimal digits:

<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
०	१	२	३	४	५	६	७	८	९

There is a set of auspicious signs:

<i>om</i>	<i>anji</i>	<i>svasti</i>
ॐ	ॐ	ॐ

The following signs of punctuation are used:

	<i>daṇḍā</i>	<i>double daṇḍā</i>	<i>continuation sign</i>
Ranjana	।	॥	॥

4 Consonant-vowel combinations

Combinations of consonants + vowels follow the typical pattern and structure of northern Brahmi scripts. There are contextual variations in the shapes of certain vowel signs, which are regular behaviors in the respective styles. These are described after the following chart.

<i>ka</i>	<i>kā</i>	<i>ki</i>	<i>kī</i>	<i>ku</i>	<i>kū</i>	<i>kr</i>	<i>kṛ</i>	<i>kl</i>	<i>kḷ</i>	<i>ke</i>	<i>kai</i>	<i>ko</i>	<i>kau</i>
क	का	कि	की	कु	कू	क्र	कृ	कल	कळ	के	कै	को	कौ
क	का	कि	की	कु	कू	क्र	कृ	कल	कळ	के	कै	को	कौ
<i>kha</i>	<i>khā</i>	<i>khi</i>	<i>khī</i>	<i>khu</i>	<i>khū</i>	<i>khṛ</i>	<i>khṛ</i>	<i>khḷ</i>	<i>khḷ</i>	<i>khe</i>	<i>khai</i>	<i>kho</i>	<i>khau</i>
ख	खा	खि	खी	खु	खू	ख्र	खृ	खल	खळ	खे	खै	खो	खौ
ख	खा	खि	खी	खु	खू	ख्र	खृ	खल	खळ	खे	खै	खो	खौ
<i>ga</i>	<i>gā</i>	<i>gi</i>	<i>gī</i>	<i>gu</i>	<i>gū</i>	<i>gr</i>	<i>gṛ</i>	<i>gl</i>	<i>gḷ</i>	<i>ge</i>	<i>gai</i>	<i>go</i>	<i>gau</i>
ग	गा	गि	गी	गु	गू	ग्र	गृ	गल	गळ	गे	गै	गो	गौ
ग	गा	गि	गी	गु	गू	ग्र	गृ	गल	गळ	गे	गै	गो	गौ
<i>gha</i>	<i>ghā</i>	<i>ghi</i>	<i>ghī</i>	<i>ghu</i>	<i>ghū</i>	<i>ghṛ</i>	<i>ghṛ</i>	<i>ghḷ</i>	<i>ghḷ</i>	<i>ghe</i>	<i>ghai</i>	<i>gho</i>	<i>ghau</i>
घ	घा	घि	घी	घु	घू	घ्र	घृ	घल	घळ	घे	घै	घो	घौ
घ	घा	घि	घी	घु	घू	घ्र	घृ	घल	घळ	घे	घै	घो	घौ
<i>ṇa</i>	<i>ṇā</i>	<i>ṇi</i>	<i>ṇī</i>	<i>ṇu</i>	<i>ṇū</i>	<i>ṇṛ</i>	<i>ṇṛ</i>	<i>ṇḷ</i>	<i>ṇḷ</i>	<i>ṇe</i>	<i>ṇai</i>	<i>ṇo</i>	<i>ṇau</i>
ण	णा	णि	णी	णु	णू	ण्र	णृ	णल	णळ	णे	णै	णो	णौ
ण	णा	णि	णी	णु	णू	ण्र	णृ	णल	णळ	णे	णै	णो	णौ

<i>ca</i>	<i>cā</i>	<i>ci</i>	<i>cī</i>	<i>cu</i>	<i>cū</i>	<i>ç</i>	<i>ç̄</i>	<i>cḷ</i>	<i>cḹ</i>	<i>ce</i>	<i>cai</i>	<i>co</i>	<i>cau</i>
𑖘	𑖘𑖅	𑖘𑖳	𑖘𑖳̄	𑖘𑖪	𑖘𑖪̄	𑖘𑖪	𑖘𑖪̄			𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪	𑖘𑖪𑖅
𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪𑖳	𑖘𑖪𑖳̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅
<i>cha</i>	<i>chā</i>	<i>chi</i>	<i>chī</i>	<i>chu</i>	<i>chū</i>	<i>çḥ</i>	<i>çḥ̄</i>	<i>chḷ</i>	<i>chḹ</i>	<i>che</i>	<i>chai</i>	<i>cho</i>	<i>chau</i>
𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪𑖳	𑖘𑖪𑖳̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄			𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅
𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪𑖳	𑖘𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅
<i>ja</i>	<i>jā</i>	<i>ji</i>	<i>jī</i>	<i>ju</i>	<i>jū</i>	<i>jṛ</i>	<i>jṝ</i>	<i>jḷ</i>	<i>jḹ</i>	<i>je</i>	<i>jai</i>	<i>jo</i>	<i>jau</i>
𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪𑖳	𑖘𑖪𑖳̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄			𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅
𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪𑖳	𑖘𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅
<i>jha</i>	<i>jhā</i>	<i>jhi</i>	<i>jhī</i>	<i>jhu</i>	<i>jhū</i>	<i>jḥṛ</i>	<i>jḥṝ</i>	<i>jḥḷ</i>	<i>jḥḹ</i>	<i>jhe</i>	<i>jhai</i>	<i>jho</i>	<i>jhau</i>
𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪𑖳	𑖘𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄			𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅
𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪𑖳	𑖘𑖪𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖪𑖅
<i>ṇa</i>	<i>ṇā</i>	<i>ṇi</i>	<i>ṇī</i>	<i>ṇu</i>	<i>ṇū</i>	<i>ṇṛ</i>	<i>ṇṝ</i>	<i>ṇḷ</i>	<i>ṇḹ</i>	<i>ṇe</i>	<i>ṇai</i>	<i>ṇo</i>	<i>ṇau</i>
𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪𑖳	𑖘𑖪𑖳̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄			𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅
𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪𑖳	𑖘𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅
<i>ṭa</i>	<i>ṭā</i>	<i>ṭi</i>	<i>ṭī</i>	<i>ṭu</i>	<i>ṭū</i>	<i>ṭṛ</i>	<i>ṭṝ</i>	<i>ṭḷ</i>	<i>ṭḹ</i>	<i>ṭe</i>	<i>ṭai</i>	<i>ṭo</i>	<i>ṭau</i>
𑖘𑖪	𑖘𑖪𑖅	𑖘𑖪𑖳	𑖘𑖪𑖳̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄	𑖘𑖪𑖪	𑖘𑖪𑖪̄			𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪	𑖘𑖪𑖪𑖅
𑖘𑖪𑖪	𑖘𑖪𑖪𑖅	𑖘𑖪𑖪𑖳	𑖘𑖪𑖪𑖳̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪̄	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅	𑖘𑖪𑖪𑖪	𑖘𑖪𑖪𑖪𑖅

<i>ṭha</i>	<i>ṭhā</i>	<i>ṭhi</i>	<i>ṭhī</i>	<i>ṭhu</i>	<i>ṭhū</i>	<i>ṭṛ</i>	<i>ṭṝ</i>	<i>ṭḷ</i>	<i>ṭḹ</i>	<i>ṭhe</i>	<i>ṭhai</i>	<i>ṭho</i>	<i>ṭhau</i>
ṭ	ṭā	ṭi	ṭī	ṭu	ṭū	ṭṛ	ṭṝ			ṭe	ṭē	ṭh	ṭh̄
ṭ	ṭā	ṭi	ṭī	ṭu	ṭū	ṭṛ	ṭṝ	ṭḷ	ṭḹ	ṭ	ṭē	ṭh	ṭh̄
<i>ḍa</i>	<i>ḍā</i>	<i>ḍi</i>	<i>ḍī</i>	<i>ḍu</i>	<i>ḍū</i>	<i>ḍṛ</i>	<i>ḍṝ</i>	<i>ḍḷ</i>	<i>ḍḹ</i>	<i>ḍe</i>	<i>ḍai</i>	<i>ḍo</i>	<i>ḍau</i>
ḍ	ḍā	ḍi	ḍī	ḍu	ḍū	ḍṛ	ḍṝ			ḍe	ḍē	ḍh	ḍh̄
ḍ	ḍā	ḍi	ḍī	ḍu	ḍū	ḍṛ	ḍṝ	ḍḷ	ḍḹ	ḍ	ḍē	ḍh	ḍh̄
<i>ḍha</i>	<i>ḍhā</i>	<i>ḍhi</i>	<i>ḍhī</i>	<i>ḍhu</i>	<i>ḍhū</i>	<i>ḍṛ</i>	<i>ḍṝ</i>	<i>ḍḷ</i>	<i>ḍḹ</i>	<i>ḍhe</i>	<i>ḍhai</i>	<i>ḍho</i>	<i>ḍhau</i>
ḍh	ḍhā	ḍhi	ḍhī	ḍhu	ḍhū	ḍṛ	ḍṝ			ḍh	ḍhē	ḍh	ḍh̄
ḍh	ḍhā	ḍhi	ḍhī	ḍhu	ḍhū	ḍṛ	ḍṝ	ḍḷ	ḍḹ	ḍh	ḍhē	ḍh	ḍh̄
<i>ṇa</i>	<i>ṇā</i>	<i>ṇi</i>	<i>ṇī</i>	<i>ṇu</i>	<i>ṇū</i>	<i>ṇṛ</i>	<i>ṇṝ</i>	<i>ṇḷ</i>	<i>ṇḹ</i>	<i>ṇe</i>	<i>ṇai</i>	<i>ṇo</i>	<i>ṇau</i>
ṇ	ṇā	ṇi	ṇī	ṇu	ṇū	ṇṛ	ṇṝ			ṇ	ṇē	ṇh	ṇh̄
ṇ	ṇā	ṇi	ṇī	ṇu	ṇū	ṇṛ	ṇṝ	ṇḷ	ṇḹ	ṇ	ṇē	ṇh	ṇh̄
<i>ta</i>	<i>tā</i>	<i>ti</i>	<i>tī</i>	<i>tu</i>	<i>tū</i>	<i>tṛ</i>	<i>tṝ</i>	<i>tḷ</i>	<i>tḹ</i>	<i>te</i>	<i>tai</i>	<i>to</i>	<i>tau</i>
t	tā	ti	tī	tu	tū	tṛ	tṝ			t	tē	tā	tā̄
t	tā	ti	tī	tu	tū	tṛ	tṝ	tḷ	tḹ	t	tē	tā	tā̄
<i>tha</i>	<i>thā</i>	<i>thi</i>	<i>thī</i>	<i>thu</i>	<i>thū</i>	<i>thṛ</i>	<i>thṝ</i>	<i>thḷ</i>	<i>thḹ</i>	<i>the</i>	<i>thai</i>	<i>tho</i>	<i>thau</i>
th	thā	thi	thī	thu	thū	thṛ	thṝ			th	thē	thh	thh̄
th	thā	thi	thī	thu	thū	thṛ	thṝ	thḷ	thḹ	th	thē	thh	thh̄

<i>da</i>	<i>dā</i>	<i>di</i>	<i>dī</i>	<i>du</i>	<i>dū</i>	<i>ḍṛ</i>	<i>ḍṝ</i>	<i>ḍḷ</i>	<i>ḍḹ</i>	<i>de</i>	<i>dai</i>	<i>do</i>	<i>dau</i>
𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛			𑂜	𑂝	𑂞	𑂟
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱
<i>dha</i>	<i>dhā</i>	<i>dhi</i>	<i>dhī</i>	<i>dhu</i>	<i>dhū</i>	<i>ḍḥṛ</i>	<i>ḍḥṝ</i>	<i>ḍḥḷ</i>	<i>ḍḥḹ</i>	<i>dhe</i>	<i>dhai</i>	<i>dho</i>	<i>dhau</i>
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱			𑂜𑂱	𑂝𑂱	𑂞𑂱	𑂟𑂱
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱
<i>na</i>	<i>nā</i>	<i>ni</i>	<i>nī</i>	<i>nu</i>	<i>nū</i>	<i>ṇṛ</i>	<i>ṇṝ</i>	<i>ṇḷ</i>	<i>ṇḹ</i>	<i>ne</i>	<i>nai</i>	<i>no</i>	<i>nau</i>
𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛			𑂜	𑂝	𑂞	𑂟
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱
<i>pa</i>	<i>pā</i>	<i>pi</i>	<i>pī</i>	<i>pu</i>	<i>pū</i>	<i>pṛ</i>	<i>pṝ</i>	<i>pḷ</i>	<i>pḹ</i>	<i>pe</i>	<i>pai</i>	<i>po</i>	<i>pau</i>
𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛			𑂜	𑂝	𑂞	𑂟
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱
<i>pha</i>	<i>phā</i>	<i>phi</i>	<i>phī</i>	<i>phu</i>	<i>phū</i>	<i>phṛ</i>	<i>phṝ</i>	<i>phḷ</i>	<i>phḹ</i>	<i>phe</i>	<i>phai</i>	<i>pho</i>	<i>phau</i>
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱			𑂜𑂱	𑂝𑂱	𑂞𑂱	𑂟𑂱
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱
<i>ba</i>	<i>bā</i>	<i>bi</i>	<i>bī</i>	<i>bu</i>	<i>bū</i>	<i>bṛ</i>	<i>bṝ</i>	<i>bḷ</i>	<i>bḹ</i>	<i>be</i>	<i>bai</i>	<i>bo</i>	<i>bau</i>
𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛			𑂜	𑂝	𑂞	𑂟
𑂔𑂱	𑂕𑂱	𑂖𑂱	𑂗𑂱	𑂘𑂱	𑂙𑂱	𑂚𑂱	𑂛𑂱	𑂛𑂱	𑂛𑂱	𑂔𑂱	𑂕𑂱	𑂞𑂱	𑂟𑂱

<i>bha</i>	<i>bhā</i>	<i>bhi</i>	<i>bhī</i>	<i>bhu</i>	<i>bhū</i>	<i>bhr̥</i>	<i>bhr̄</i>	<i>bhl̥</i>	<i>bhl̄</i>	<i>bhe</i>	<i>bhai</i>	<i>bho</i>	<i>bhau</i>
𑂔	𑂕	𑂖	𑂗	𑂘	𑂙	𑂚	𑂛			𑂜	𑂝	𑂞	𑂟
𑂔𑂔	𑂕𑂕	𑂖𑂖	𑂗𑂗	𑂘𑂘	𑂙𑂙	𑂚𑂚	𑂛𑂛	𑂜𑂜	𑂝𑂝	𑂞𑂞	𑂟𑂟	𑂠𑂠	𑂡𑂡
<i>ma</i>	<i>mā</i>	<i>mi</i>	<i>mī</i>	<i>mu</i>	<i>mū</i>	<i>mṛ</i>	<i>mṝ</i>	<i>ml̥</i>	<i>ml̄</i>	<i>me</i>	<i>mai</i>	<i>mo</i>	<i>mau</i>
𑂢	𑂣	𑂤	𑂥	𑂦	𑂧	𑂨	𑂩			𑂪	𑂫	𑂬	𑂭
𑂢𑂢	𑂣𑂣	𑂤𑂤	𑂥𑂥	𑂦𑂦	𑂧𑂧	𑂨𑂨	𑂩𑂩	𑂪𑂪	𑂫𑂫	𑂬𑂬	𑂭𑂭	𑂮𑂮	𑂯𑂯
<i>ya</i>	<i>yā</i>	<i>yi</i>	<i>yī</i>	<i>yu</i>	<i>yū</i>	<i>yṛ</i>	<i>yṝ</i>	<i>yl̥</i>	<i>yl̄</i>	<i>ye</i>	<i>yai</i>	<i>yo</i>	<i>yau</i>
𑂱	𑂲	𑂳	𑂴	𑂵	𑂶	𑂷	𑂸			𑂹	𑂺	𑂻	𑂼
𑂱𑂱	𑂲𑂲	𑂳𑂳	𑂴𑂴	𑂵𑂵	𑂶𑂶	𑂷𑂷	𑂸𑂸	𑂹𑂹	𑂺𑂺	𑂻𑂻	𑂼𑂼	𑂽𑂽	𑂾𑂾
<i>ra</i>	<i>rā</i>	<i>ri</i>	<i>rī</i>	<i>ru</i>	<i>rū</i>	<i>rṛ</i>	<i>rṝ</i>	<i>rl̥</i>	<i>rl̄</i>	<i>re</i>	<i>rai</i>	<i>ro</i>	<i>rau</i>
𑂱	𑂲	𑂳	𑂴	𑂵	𑂶	𑂷	𑂸			𑂹	𑂺	𑂻	𑂼
𑂱𑂱	𑂲𑂲	𑂳𑂳	𑂴𑂴	𑂵𑂵	𑂶𑂶	𑂷𑂷	𑂸𑂸	𑂹𑂹	𑂺𑂺	𑂻𑂻	𑂼𑂼	𑂽𑂽	𑂾𑂾
<i>la</i>	<i>lā</i>	<i>li</i>	<i>lī</i>	<i>lu</i>	<i>lū</i>	<i>lṛ</i>	<i>lṝ</i>	<i>ll̥</i>	<i>ll̄</i>	<i>le</i>	<i>lai</i>	<i>lo</i>	<i>lau</i>
𑂱	𑂲	𑂳	𑂴	𑂵	𑂶	𑂷	𑂸			𑂹	𑂺	𑂻	𑂼
𑂱𑂱	𑂲𑂲	𑂳𑂳	𑂴𑂴	𑂵𑂵	𑂶𑂶	𑂷𑂷	𑂸𑂸	𑂹𑂹	𑂺𑂺	𑂻𑂻	𑂼𑂼	𑂽𑂽	𑂾𑂾
<i>va</i>	<i>vā</i>	<i>vi</i>	<i>vī</i>	<i>vu</i>	<i>vū</i>	<i>vṛ</i>	<i>vṝ</i>	<i>vl̥</i>	<i>vl̄</i>	<i>ve</i>	<i>vai</i>	<i>vo</i>	<i>vau</i>
𑂱	𑂲	𑂳	𑂴	𑂵	𑂶	𑂷	𑂸			𑂹	𑂺	𑂻	𑂼
𑂱𑂱	𑂲𑂲	𑂳𑂳	𑂴𑂴	𑂵𑂵	𑂶𑂶	𑂷𑂷	𑂸𑂸	𑂹𑂹	𑂺𑂺	𑂻𑂻	𑂼𑂼	𑂽𑂽	𑂾𑂾

<i>śa</i>	<i>śā</i>	<i>śi</i>	<i>śī</i>	<i>śu</i>	<i>śū</i>	<i>śṛ</i>	<i>śṝ</i>	<i>śḷ</i>	<i>śḹ</i>	<i>še</i>	<i>śai</i>	<i>śo</i>	<i>śau</i>
𑖦	𑖦𑖫	𑖦𑖳	𑖦𑖳𑖫	𑖦𑖱	𑖦𑖱𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫			𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫
𑖦𑖱	𑖦𑖱𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫
<i>ṣa</i>	<i>ṣā</i>	<i>ṣi</i>	<i>ṣī</i>	<i>ṣu</i>	<i>ṣū</i>	<i>ṣṛ</i>	<i>ṣṝ</i>	<i>ṣḷ</i>	<i>ṣḹ</i>	<i>ṣe</i>	<i>ṣai</i>	<i>ṣo</i>	<i>ṣau</i>
𑖦𑖱	𑖦𑖱𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖫			𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫
𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫
<i>sa</i>	<i>sā</i>	<i>si</i>	<i>sī</i>	<i>su</i>	<i>sū</i>	<i>sṛ</i>	<i>sṝ</i>	<i>sḷ</i>	<i>sḹ</i>	<i>se</i>	<i>sai</i>	<i>so</i>	<i>sau</i>
𑖦𑖱	𑖦𑖱𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖱	𑖦𑖱𑖱𑖫	𑖦𑖱𑖱𑖳	𑖦𑖱𑖱𑖳𑖫			𑖦𑖱𑖱𑖳𑖱𑖳	𑖦𑖱𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖱𑖳𑖱𑖳	𑖦𑖱𑖱𑖳𑖱𑖳𑖫
𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫
<i>ha</i>	<i>hā</i>	<i>hi</i>	<i>hī</i>	<i>hu</i>	<i>hū</i>	<i>hṛ</i>	<i>hṝ</i>	<i>hḷ</i>	<i>hḹ</i>	<i>he</i>	<i>hai</i>	<i>ho</i>	<i>hau</i>
𑖦𑖱	𑖦𑖱𑖫	𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖱	𑖦𑖱𑖱𑖫	𑖦𑖱𑖱𑖳	𑖦𑖱𑖱𑖳𑖫			𑖦𑖱𑖱𑖳𑖱𑖳	𑖦𑖱𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖱𑖳𑖱𑖳	𑖦𑖱𑖱𑖳𑖱𑖳𑖫
𑖦𑖱𑖳	𑖦𑖱𑖳𑖫	𑖦𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱	𑖦𑖱𑖳𑖱𑖳𑖱𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫	𑖦𑖱𑖳𑖱𑖳𑖱𑖳	𑖦𑖱𑖳𑖱𑖳𑖱𑖳𑖫

4.1 Vowel sign -ā

There are contextual forms for the following signs when they attach to a letter with an arm on the right, and in some cases with letters with a joining descender on the right. This is regular behavior in the Ranjana and Lantsa for *ka* and *ja*:

regular	contextual	Ranjana	Lantsa
𑖦𑖱	𑖦𑖱̣	𑖦𑖱 _{ka} + 𑖦𑖱̣-ā = 𑖦𑖱 _{kā}	𑖦𑖱 _{ka} + 𑖦𑖱̣-ā = 𑖦𑖱 _{kā}
		𑖦𑖱 _{ja} + 𑖦𑖱̣-ā = 𑖦𑖱 _{jā}	𑖦𑖱 _{ja} + 𑖦𑖱̣-ā = 𑖦𑖱 _{jā}

In Ranjana, the vowel sign -ā has a different shape when used with eight consonant letters: *kha*, *ga*, *ṇa*, *ṭha*, *ṇa*, *ṭha*, *dha*, *śa*. The contextual variation is regular behavior in Ranjana, and also occurs whenever -ā is a component in a multi-part vowel sign.

regular	contextual	Ranjana	Lantsa
◌ि	◌ि	क _{kha} + ◌ि-ā = क़ा _{khā}	क _{kha} + ◌ि-ā = क़ा _{khā}
		ग _{ga} + ◌ि-ā = गा _{gā}	ग _{ga} + ◌ि-ā = गा _{gā}
		ञ _{ña} + ◌ि-ā = ञा _{ñā}	ञ _{ña} + ◌ि-ā = ञा _{ñā}
		ठ _{tha} + ◌ि-ā = ठा _{thā}	ठ _{tha} + ◌ि-ā = ठा _{thā}
		ण _{na} + ◌ि-ā = णा _{ṇā}	ण _{na} + ◌ि-ā = णा _{ṇā}
		थ _{tha} + ◌ि-ā = था _{thā}	थ _{tha} + ◌ि-ā = था _{thā}
		ध _{dha} + ◌ि-ā = धा _{dhā}	ध _{dha} + ◌ि-ā = धा _{dhā}
		स _{śa} + ◌ि-ā = सा _{śā}	स _{śa} + ◌ि-ā = सा _{śā}

4.2 Vowel sign -ī

The vowel sign -ī takes a contextual form with *ka* and *ja* in both Ranjana and Lantsa, but also with *cha* in Lantsa:

regular	contextual	Ranjana	Lantsa
◌ी	◌ी	क _{ka} + ◌ी-ī = की _{kī}	क _{ka} + ◌ी-ī = की _{kī}
		च _{cha} + ◌ी-ī = ची _{chī}	च _{cha} + ◌ी-ī = ची _{chī}
		ज _{ja} + ◌ी-ī = जी _{jī}	ज _{ra} + ◌ी-ī = जी _{jī}

4.3 Vowel signs -u and -ū

The vowel signs ◌ु -u and ◌ू -ū function the same in Ranjana and Lantsa: they either connect to a vertical descender as a curve, or are placed beneath the letter when there is no descender. As in other northern Brahmi scripts, the letter *ra* has special forms when it combines with -u and -ū.

Ranjana	Lantsa
र _{ra} + ◌ु -u = रु _{ru}	र _{ra} + ◌ु -u = रु _{ru}

$$\text{ra} + \text{◌} -u = \text{rū} \quad \text{ra} + \text{◌} -u = \text{rū}$$

The form of *rū* is based on that of *ru* with the contextual form of *a* functioning as a length mark, essentially lengthening the *u*.

4.4 Vowel sign -e

In Ranjana, a contextual form of the vowel sign -e is used with the following eight consonants. The ◌ is extended down to the baseline as the curved stroke ◌ that is typical in modern Nepalese styles, or the linear ◌ *prṣṭhāmātrā* form, which is found in older styles. The contextual variation is regular behavior for vowel sign -e with these consonants in Ranjana. This behavior also extends to multi-part vowel signs, such as -ai, -o, and -au, in which the sign -e occurs (see descriptions in following sections for details).

regular	contextual	Ranjana	Lantsa
◌	◌	𑂔 _{kha} + ◌ -e = 𑂔 _{khe}	𑂔 _{kha} + ◌ -e = 𑂔 _{khe}
		𑂒 _{ga} + ◌ -e = 𑂒 _{ge}	𑂒 _{ga} + ◌ -e = 𑂒 _{ge}
		𑂓 _{ña} + ◌ -e = 𑂓 _{ñe}	𑂓 _{ña} + ◌ -e = 𑂓 _{ñe}
		𑂖 _{ṭha} + ◌ -e = 𑂖 _{ṭhe}	𑂖 _{ṭha} + ◌ -e = 𑂖 _{ṭhe}
		𑂗 _{na} + ◌ -e = 𑂗 _{ne}	𑂗 _{na} + ◌ -e = 𑂗 _{ne}
		𑂛 _{tha} + ◌ -e = 𑂛 _{the}	𑂛 _{tha} + ◌ -e = 𑂛 _{the}
		𑂝 _{dha} + ◌ -e = 𑂝 _{dhe}	𑂝 _{dha} + ◌ -e = 𑂝 _{dhe}
		𑂞 _{śa} + ◌ -e = 𑂞 _{śe}	𑂞 _{śa} + ◌ -e = 𑂞 _{śe}

The *prṣṭhāmātrā* forms ◌ and ◌ also occur in some Lantsa manuscripts, but such usage is not regular.

4.5 Vowel sign -ai

The dependent form of the diphthong -ai is represented using two signs: the vowel sign -e and a sign that denotes vowel length or modification, or possibly a diphthong mark. The length mark is not used independently, and is not typically depicted as a separate sign in script charts. It is used only for representing -ai and -au (see below for a description of the latter diphthong). This pattern is standard for both Ranjana and Lantsa, although the graphical form of the length mark is specific to each style.

Ranjana	Lantsa
$\text{◌}^{\circ}\text{◌}^{\circ}\text{-ai} = \text{◌}^{\circ}\text{-e} + \text{◌}^{\circ}\text{ length mark}$	$\text{◌}^{\circ}\text{-ai} = \text{◌}^{\circ}\text{-e} + \text{◌}^{\circ}\text{ length mark}$

In Ranjana, when the vowel sign *-ai* is combined with *kha*, *ga*, *ña*, *ṭha*, *ṇa*, *tha*, *dha*, *śa*, the left-side component follows the regular shaping behavior for vowel sign *-e*:

regular	contextual	Ranjana	Lantsa
◌°	◌°	$\text{क}^{\circ}\text{kha} + \text{◌}^{\circ} = \text{कै}^{\circ}\text{khai}$	$\text{क}^{\circ}\text{kha} + \text{◌}^{\circ}\text{-ai} = \text{कै}^{\circ}\text{khai}$
		$\text{ग}^{\circ}\text{ga} + \text{◌}^{\circ} = \text{गै}^{\circ}\text{gai}$	$\text{ग}^{\circ}\text{ga} + \text{◌}^{\circ}\text{-ai} = \text{गै}^{\circ}\text{gai}$
		$\text{ञ}^{\circ}\text{ña} + \text{◌}^{\circ} = \text{जै}^{\circ}\text{ñai}$	$\text{ञ}^{\circ}\text{ña} + \text{◌}^{\circ}\text{-ai} = \text{जै}^{\circ}\text{ñai}$
		$\text{ठ}^{\circ}\text{ṭha} + \text{◌}^{\circ} = \text{ठै}^{\circ}\text{ṭhai}$	$\text{ठ}^{\circ}\text{ṭha} + \text{◌}^{\circ}\text{-ai} = \text{ठै}^{\circ}\text{ṭhai}$
		$\text{ण}^{\circ}\text{ṇa} + \text{◌}^{\circ} = \text{णै}^{\circ}\text{ṇai}$	$\text{ण}^{\circ}\text{ṇa} + \text{◌}^{\circ}\text{-ai} = \text{णै}^{\circ}\text{ṇai}$
		$\text{थ}^{\circ}\text{tha} + \text{◌}^{\circ} = \text{थै}^{\circ}\text{thai}$	$\text{थ}^{\circ}\text{tha} + \text{◌}^{\circ}\text{-ai} = \text{थै}^{\circ}\text{thai}$
		$\text{ध}^{\circ}\text{dha} + \text{◌}^{\circ} = \text{धै}^{\circ}\text{dhai}$	$\text{ध}^{\circ}\text{dha} + \text{◌}^{\circ}\text{-ai} = \text{धै}^{\circ}\text{dhai}$
		$\text{श}^{\circ}\text{śa} + \text{◌}^{\circ} = \text{शै}^{\circ}\text{śai}$	$\text{श}^{\circ}\text{śa} + \text{◌}^{\circ}\text{-ai} = \text{शै}^{\circ}\text{śai}$

4.6 Vowel sign -o

The dependent form of the vowel *-o* is represented using two signs: the vowel sign *-e* and vowel sign *-ā*, which are written in the usual positions with the base letter:

Ranjana	Lantsa
$\text{◌}^{\circ}\text{-o} = \text{◌}^{\circ}\text{-e} + \text{◌}^{\circ}\text{-ā}$	$\text{◌}^{\circ}\text{-o} = \text{◌}^{\circ}\text{-e} + \text{◌}^{\circ}\text{-ā}$

In Ranjana, when vowel sign *-o* is applied to the following eight consonant letters, the same contextual alternation applies to left-side *-e* and right-side *-ā* components:

regular	contextual	Ranjana	Lantsa
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◌◌	◌◌	ख _{kha} + ◌◌-o = खो _{kho}	ख _{kha} + ◌◌-o = खो _{kho}
		ग _{ga} + ◌◌-o = गो _{go}	ग _{ga} + ◌◌-o = गो _{go}
		ञ _{ña} + ◌◌-o = ञो _{ño}	ञ _{ña} + ◌◌-o = ञो _{ño}
		ठ _{ṭha} + ◌◌-o = ठो _{ṭho}	ठ _{ṭha} + ◌◌-o = ठो _{ṭho}
		न _{na} + ◌◌-o = नो _{no}	न _{na} + ◌◌-o = नो _{no}
		थ _{tha} + ◌◌-o = थो _{tho}	थ _{tha} + ◌◌-o = थो _{tho}
		ध _{dha} + ◌◌-o = धो _{dho}	ध _{dha} + ◌◌-o = धो _{dho}
		स _{śa} + ◌◌-o = सो _{śo}	स _{śa} + ◌◌-o = सो _{śo}

4.7 Vowel sign -au

The dependent form of the vowel -o is represented using three signs: the vowel sign -e and vowel sign -ā, topped by the vowel length mark used for indicating -ai. These are written in the usual positions with regard to the base letter:

Ranjana	Lantsa
◌◌-au = ◌◌-e + ◌◌-ā + ◌◌ length mark	◌◌-au = ◌◌-e + ◌◌-ā + ◌◌ length mark

In Ranjana, when vowel sign -o is applied to the following eight consonant letters, the same contextual alternation applies to left-side -e and right-side -ā components:

regular	contextual	Ranjana	Lantsa
◌◌	◌◌	ख _{kha} + ◌◌-au = खौ _{khau}	ख _{kha} + ◌◌-au = खौ _{khau}
		ग _{ga} + ◌◌-au = गौ _{gau}	ग _{ga} + ◌◌-au = गौ _{gau}
		ञ _{ña} + ◌◌-au = ञौ _{ñau}	ञ _{ña} + ◌◌-au = ञौ _{ñau}
		ठ _{ṭha} + ◌◌-au = ठौ _{ṭhau}	ठ _{ṭha} + ◌◌-au = ठौ _{ṭhau}
		न _{na} + ◌◌-au = नौ _{nau}	न _{na} + ◌◌-au = नौ _{nau}

थ _{tha} + ौ _{-au} = थौ _{thau}	थ _{tha} + ौ _{-au} = थौ _{thau}
ध _{dha} + ौ _{-au} = धौ _{dhau}	ध _{dha} + ौ _{-au} = धौ _{dhau}
स _{śa} + ौ _{-au} = सौ _{śau}	स _{śa} + ौ _{-au} = सौ _{śau}

5 Consonant conjuncts

A consonant cluster (C*V_m) is represented as a conjunct of the letters in the cluster. Conjunct formation in Ranjana / Lantsa is fairly regular. There are two major techniques for representing conjuncts:

- Traditional: conjuncts are produced by stacking letters, which requires condensing or compressing the shape of letters, or using alternate forms, such that the conjunct stack adheres to the proportions of the surrounding text and the overall line height. This pattern is most similar to the vertical stack used in the Siddham and classical Devanagari scripts, and of course, Tibetan. The Lantsa styles of the script generally preserve this traditional method of conjunct formation.
- Modern: the traditional stacking behavior is maintained for conjuncts of two letters. For conjuncts with three or more letters, the initial consonant is rendered as a half-form that is attached to a stack of the remaining letters. This results in a conjunct that is both horizontal and vertical. The conjunct formation of modern Devanagari is similar to this pattern, particularly the usage of half-forms for certain letters and the retention of stacked forms for others. This behavior is observed in modern Ranjana, where there is a tendency to simplify conjuncts over time.

As is expected from the highly calligraphical nature of the script, there is some variation in the representation of some conjuncts between the two styles.

Shown below are examples of conjuncts consisting of two consonants in the modern Ranjana style:

क _{ka} + क _{ka}	क्क _{kka}	क _{ka} + ल _{la}	क्ल _{kla}
क _{ka} + च _{ca}	क्च _{kca}	क _{ka} + व _{va}	क्व _{kva}
क _{ka} + त _{ta}	क्त _{kta}	क _{ka} + श _{śa}	क्श _{kśa}
क _{ka} + थ _{tha}	क्थ _{ktha}	क _{ka} + ष _{ṣa}	क्ष _{kṣa}
क _{ka} + न _{na}	क्न _{kna}	क _{ka} + स _{sa}	क्स _{kṣa}
क _{ka} + प _{pa}	क्प _{kpa}	ख _{kha} + य _{ya}	क्य _{khyā}
क _{ka} + म _{ma}	क्म _{kma}	ग _{ga} + ग _{ga}	ग्ग _{gga}
क _{ka} + य _{ya}	क्य _{kya}	ग _{ga} + ङ _{ṅa}	गङ्ग _{gṅa}
क _{ka} + र _{ra}	कर _{kra}	ग _{ga} + ल _{la}	गल्ग _{gḷa}

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त _{na} + य _{ya}	य _{nya}	द _{da} + व _{ra}	द _{dra}
त _{na} + व _{va}	व _{nva}	द _{da} + व _{va}	व _{dva}
त _{ta} + क _{ka}	क _{tka}	ध _{dha} + न _{na}	न _{dhna}
त _{ta} + ख _{kha}	ख _{tkha}	ध _{dha} + म _{ma}	म _{dhma}
त _{ta} + त _{ta}	त _{tta}	ध _{dha} + य _{ya}	य _{dhya}
त _{ta} + थ _{tha}	थ _{ttha}	ध _{dha} + र _{ra}	र _{dhra}
त _{ta} + न _{na}	न _{tna}	ध _{dha} + व _{va}	व _{dhva}
त _{ta} + प _{pa}	प _{tpa}	न _{na} + क _{ka}	क _{nka}
त _{ta} + फ _{pha}	फ _{tpha}	न _{na} + ख _{kha}	ख _{nkha}
त _{ta} + म _{ma}	म _{tma}	न _{na} + ग _{ga}	ग _{nga}
त _{ta} + य _{ya}	य _{tya}	न _{na} + ङ _{gha}	ङ _{ngha}
त _{ta} + र _{ra}	र _{tra}	न _{na} + त _{ta}	त _{nta}
त _{ta} + व _{va}	व _{tva}	न _{na} + थ _{tha}	थ _{ntha}
त _{ta} + स _{sa}	स _{tsa}	न _{na} + द _{da}	द _{nda}
थ _{tha} + य _{ya}	य _{thya}	न _{na} + ध _{dha}	ध _{ndha}
थ _{tha} + व _{va}	व _{thva}	न _{na} + न _{na}	न _{nna}
द _{da} + ग _{ga}	ग _{dga}	न _{na} + प _{pa}	प _{npa}
ध _{dha} + ह _{ha}	ह _{dhha}	न _{na} + फ _{pha}	फ _{npha}
द _{da} + द _{da}	द _{dda}	न _{na} + ब _{ba}	ब _{nba}
द _{da} + ध _{dha}	ध _{ddha}	न _{na} + त _{bha}	त _{nbha}
द _{da} + न _{na}	न _{dna}	न _{na} + म _{ma}	म _{nma}
द _{da} + ब _{ba}	ब _{dba}	न _{na} + य _{ya}	य _{nya}
द _{da} + र _{bha}	र _{dbha}	न _{na} + र _{ra}	र _{nra}
द _{da} + म _{ma}	म _{dma}	न _{na} + व _{va}	व _{nva}
द _{da} + य _{ya}	य _{dya}	न _{na} + स _{sa}	स _{nsa}

न _{na} + ह _{ha}	नह _{nha}	म _{ma} + ल _{la}	मल _{m̐la}
प _{pa} + त _{ta}	पत _{pta}	य _{ya} + य _{ya}	यय _{yya}
प _{pa} + न _{na}	पन _{pna}	य _{ya} + व _{va}	यव _{yva}
प _{pa} + म _{ma}	पम _{pma}	र _{ra} + क _{ka}	रक _{rka}
प _{pa} + य _{ya}	पय _{pya}	र _{ra} + ख _{kha}	रख _{rkha}
प _{pa} + र _{ra}	प्र _{pra}	र _{ra} + ग _{ga}	रग _{rga}
प _{pa} + ल _{la}	पल _{pla}	र _{ra} + घ _{gha}	रघ _{rg̐ha}
प _{pa} + स _{sa}	पस _{psa}	र _{ra} + ङ _{ca}	रङ _{rca}
ब _{ba} + ज _{ja}	बज _{bja}	र _{ra} + च _{cha}	रच _{rcha}
ब _{ba} + द _{da}	बद _{bda}	र _{ra} + झ _{ja}	रझ _{rja}
ब _{ba} + ध _{dha}	बध _{bdha}	र _{ra} + ण _{na}	रण _{r̐na}
ब _{ba} + य _{ya}	बय _{bya}	र _{ra} + त _{ta}	रत _{rta}
ब _{ba} + र _{ra}	बर _{bra}	र _{ra} + थ _{tha}	रथ _{rtha}
ब _{ba} + व _{va}	बव _{bva}	र _{ra} + द _{da}	रद _{rda}
भ _{bha} + ण _{na}	भण _{bh̐na}	र _{ra} + ध _{dha}	रध _{rdha}
भ _{bha} + य _{ya}	भय _{bhya}	र _{ra} + न _{na}	रन _{rna}
भ _{bha} + र _{ra}	भर _{bhra}	र _{ra} + प _{pa}	रप _{rpa}
भ _{bha} + व _{va}	भव _{bhva}	र _{ra} + ब _{ba}	रब _{rba}
म _{ma} + ण _{na}	मण _{m̐na}	र _{ra} + भ _{bha}	रभ _{rbha}
म _{ma} + न _{na}	मन _{mna}	र _{ra} + म _{ma}	रम _{rma}
म _{ma} + प _{pa}	मप _{mpa}	र _{ra} + य _{ya}	रय _{rya}
म _{ma} + ब _{ba}	मब _{mba}	र _{ra} + ल _{la}	रल _{rla}
म _{ma} + भ _{bha}	मभ _{mbha}	र _{ra} + व _{va}	रव _{rva}
म _{ma} + य _{ya}	मय _{mya}	र _{ra} + ण _{śa}	रण _{r̐śa}
म _{ma} + र _{ra}	मर _{mra}	र _{ra} + स _{sa}	रस _{r̐sa}

ब _{ra} + ह _{ha}	ह _{rha}	व _{ṣa} + प _{pa}	श्च _{ṣpa}
ल _{la} + क _{ka}	क्ल _{lka}	व _{ṣa} + म _{ma}	श्म _{ṣma}
ल _{la} + ग _{ga}	ग्ल _{lga}	व _{ṣa} + य _{ya}	श्च _{ṣya}
ल _{la} + प _{pa}	प्ल _{lpa}	व _{ṣa} + व _{va}	व्च _{ṣva}
ल _{la} + ब _{ba}	ब्ल _{lba}	स _{sa} + क _{ka}	स्क _{ska}
ल _{la} + म _{ma}	म्ल _{lma}	स _{sa} + त _{ta}	स्त _{sta}
ल _{la} + य _{ya}	य्ल _{lya}	स _{sa} + थ _{tha}	स्थ _{stha}
ल _{la} + ल _{la}	ल्ल _{lla}	स _{sa} + न _{na}	स्र _{sna}
ल _{la} + व _{va}	व्ल _{lva}	स _{sa} + प _{pa}	श्च _{ṣpa}
व _{va} + य _{ya}	व्य _{vya}	स _{sa} + फ _{pha}	श्फ _{spha}
व _{va} + र _{ra}	व्र _{vra}	स _{sa} + म _{ma}	श्म _{sma}
ह्र _{śa} + ण _{ca}	ह्र _{śca}	स _{sa} + य _{ya}	श्च _{ṣya}
ह्र _{śa} + च _{cha}	ह्र _{ścha}	स _{sa} + र _{ra}	स्र _{sra}
ह्र _{śa} + न _{na}	ह्र _{śna}	स _{sa} + व _{va}	व्र _{sva}
ह्र _{śa} + प _{pa}	ह्र _{śpa}	ह _{ha} + ण _{ṇa}	ह्र _{hṇa}
ह्र _{śa} + म _{ma}	ह्र _{śma}	ह _{ha} + ल _{ṇa}	ह्र _{hṇa}
ह्र _{śa} + य _{ya}	ह्र _{śya}	ह _{ha} + न _{na}	ह्र _{hna}
ह्र _{śa} + र _{ra}	ह्र _{śra}	ह _{ha} + म _{ma}	ह्र _{hma}
ह्र _{śa} + ल _{la}	ह्र _{śla}	ह _{ha} + य _{ya}	ह्र _{hya}
ह्र _{śa} + व _{va}	ह्र _{śva}	ह _{ha} + र _{ra}	ह्र _{hra}
व _{ṣa} + क _{ka}	क्व _{ṣka}	ह _{ha} + ल _{la}	ह्र _{hla}
व _{ṣa} + ट _{ṭa}	ह्र _{ṣṭa}	ह _{ha} + व _{va}	ह्र _{hva}
व _{ṣa} + थ _{tha}	ह्र _{ṣṭha}		
व _{ṣa} + ल _{ṇa}	ह्र _{ṣṇa}		

5.1 Special cases in conjunct formation

In the Lantsa style, the letters *ra*, *ya*, and *va* may be represented in different ways in stacks. The below examples of these letters with *ka* were provided by Christopher Fynn (personal correspondence, 2014):



5.2 Proposed Encoding Model

A basic encoding for Ranjana / Lantsa requires the following characters:

- 14 vowel letters
- 14 vowel signs: 13 dependent vowel signs, 1 *ai* length mark
- 4 signs: *candrabindu*, *anusvara*, *visarga*, *virama*
- 33 consonant letters
- 4 contextual consonant letters:
 - 3 forms of *ra*: *eyelash ra*, *repha*, *final ra*
 - final *ya*
- 1 subjoiner, to be used for conjunct formation
- *avagraha*
- 2 consonant signs: *jihvamuliya*, *upadhmaniya*
- 3 auspicious signs: *om*, *anji*, *svasti*
- 3 signs of punctuation: *danda*, double *danda*, continuation sign
- 10 digits

6 Character Data

Character Properties: UnicodeData.txt

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11500;RANJANA LETTER A;Lo;0;L;;;;N;;;;;
11501;RANJANA LETTER AA;Lo;0;L;;;;N;;;;;
11502;RANJANA LETTER I;Lo;0;L;;;;N;;;;;
11503;RANJANA LETTER II;Lo;0;L;;;;N;;;;;
11504;RANJANA LETTER U;Lo;0;L;;;;N;;;;;
11505;RANJANA LETTER UU;Lo;0;L;;;;N;;;;;
11506;RANJANA LETTER VOCALIC R;Lo;0;L;;;;N;;;;;
11507;RANJANA LETTER VOCALIC RR;Lo;0;L;;;;N;;;;;
11508;RANJANA LETTER VOCALIC L;Lo;0;L;;;;N;;;;;
11509;RANJANA LETTER VOCALIC LL;Lo;0;L;;;;N;;;;;
1150A;RANJANA LETTER E;Lo;0;L;;;;N;;;;;
1150B;RANJANA LETTER AI;Lo;0;L;;;;N;;;;;
1150C;RANJANA LETTER O;Lo;0;L;;;;N;;;;;
1150D;RANJANA LETTER AU;Lo;0;L;;;;N;;;;;
1150E;RANJANA LETTER KA;Lo;0;L;;;;N;;;;;
1150F;RANJANA LETTER KHA;Lo;0;L;;;;N;;;;;
11510;RANJANA LETTER GA;Lo;0;L;;;;N;;;;;
11511;RANJANA LETTER GHA;Lo;0;L;;;;N;;;;;
11512;RANJANA LETTER NGA;Lo;0;L;;;;N;;;;;
11513;RANJANA LETTER CA;Lo;0;L;;;;N;;;;;
11514;RANJANA LETTER CHA;Lo;0;L;;;;N;;;;;
11515;RANJANA LETTER JA;Lo;0;L;;;;N;;;;;
11516;RANJANA LETTER JHA;Lo;0;L;;;;N;;;;;
11517;RANJANA LETTER NYA;Lo;0;L;;;;N;;;;;
11518;RANJANA LETTER TTA;Lo;0;L;;;;N;;;;;
11519;RANJANA LETTER TTHA;Lo;0;L;;;;N;;;;;
1151A;RANJANA LETTER DDA;Lo;0;L;;;;N;;;;;
1151B;RANJANA LETTER DDHA;Lo;0;L;;;;N;;;;;
1151C;RANJANA LETTER NNA;Lo;0;L;;;;N;;;;;
1151D;RANJANA LETTER TA;Lo;0;L;;;;N;;;;;
1151E;RANJANA LETTER THA;Lo;0;L;;;;N;;;;;
1151F;RANJANA LETTER DA;Lo;0;L;;;;N;;;;;
11520;RANJANA LETTER DHA;Lo;0;L;;;;N;;;;;
11521;RANJANA LETTER NA;Lo;0;L;;;;N;;;;;
11522;RANJANA LETTER PA;Lo;0;L;;;;N;;;;;
11523;RANJANA LETTER PHA;Lo;0;L;;;;N;;;;;
11524;RANJANA LETTER BA;Lo;0;L;;;;N;;;;;
11525;RANJANA LETTER BHA;Lo;0;L;;;;N;;;;;
11526;RANJANA LETTER MA;Lo;0;L;;;;N;;;;;
11527;RANJANA LETTER YA;Lo;0;L;;;;N;;;;;
11528;RANJANA LETTER RA;Lo;0;L;;;;N;;;;;
11529;RANJANA LETTER LA;Lo;0;L;;;;N;;;;;
1152A;RANJANA LETTER vA;Lo;0;L;;;;N;;;;;
1152B;RANJANA LETTER SHA;Lo;0;L;;;;N;;;;;
1152C;RANJANA LETTER SSA;Lo;0;L;;;;N;;;;;

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1152D;RANJANA LETTER SA;Lo;0;L;;;;N;;;;;
 1152E;RANJANA LETTER HA;Lo;0;L;;;;N;;;;;
 1152F;RANJANA VOWEL SIGN AA;Mc;0;L;;;;N;;;;;
 11530;RANJANA VOWEL SIGN I;Mc;0;L;;;;N;;;;;
 11531;RANJANA VOWEL SIGN II;Mc;0;L;;;;N;;;;;
 11532;RANJANA VOWEL SIGN U;Mn;0;NSM;;;;N;;;;;
 11533;RANJANA VOWEL SIGN UU;Mn;0;NSM;;;;N;;;;;
 11534;RANJANA VOWEL SIGN VOCALIC R;Mn;0;NSM;;;;N;;;;;
 11535;RANJANA VOWEL SIGN VOCALIC RR;Mn;0;NSM;;;;N;;;;;
 11536;RANJANA VOWEL SIGN VOCALIC L;Mn;0;NSM;;;;N;;;;;
 11537;RANJANA VOWEL SIGN VOCALIC LL;Mn;0;NSM;;;;N;;;;;
 11538;RANJANA VOWEL SIGN E;Mc;0;L;;;;N;;;;;
 11539;RANJANA VOWEL SIGN AI;Mc;0;L;11538 1153C;;;;N;;;;;
 1153A;RANJANA VOWEL SIGN O;Mc;0;L;11538 1152F;;;;N;;;;;
 1153B;RANJANA VOWEL SIGN AU;Mc;0;L;11538 1153C 1152F;;;;N;;;;;
 1153C;RANJANA AI LENGTH MARK;Mc;0;L;;;;N;;;;;
 1153D;RANJANA SIGN VIRAMA;Mn;9;NSM;;;;N;;;;;
 1153E;RANJANA SIGN CANDRABINDU;Mn;0;NSM;;;;N;;;;;
 1153F;RANJANA SIGN ANUSVARA;Mc;0;L;;;;N;;;;;
 11540;RANJANA SIGN VISARGA;Mc;0;L;;;;N;;;;;
 11541;RANJANA SIGN AVAGRAHA;Lo;0;L;;;;N;;;;;
 11542;RANJANA SIGN JIHVAMULIYA;Lo;0;L;;;;N;;;;;
 11543;RANJANA SIGN UPADHMANIYA;Lo;0;L;;;;N;;;;;
 11544;RANJANA LETTER EYELASH RA;Lo;0;L;;;;N;;;;;
 11545;RANJANA LETTER REPHA;Lo;0;L;;;;N;;;;;
 11546;RANJANA LETTER FINAL RA;Lo;0;L;;;;N;;;;;
 11547;RANJANA LETTER FINAL YA;Lo;0;L;;;;N;;;;;
 11548;RANJANA SUBJOINER;Mn;9;NSM;;;;N;;;;;
 11549;RANJANA OM;Lo;0;L;;;;N;;;;;
 1154A;RANJANA ANJI;Lo;0;L;;;;N;;;;;
 1154B;RANJANA SVASTI;Lo;0;L;;;;N;;;;;
 1154C;RANJANA DANDA;Po;0;L;;;;N;;;;;
 1154D;RANJANA DOUBLE DANDA;Po;0;L;;;;N;;;;;
 1154E;RANJANA CONTINUATION SIGN;Po;0;L;;;;N;;;;;
 11550;RANJANA DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
 11551;RANJANA DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
 11552;RANJANA DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
 11553;RANJANA DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
 11554;RANJANA DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
 11555;RANJANA DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
 11556;RANJANA DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
 11557;RANJANA DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
 11558;RANJANA DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
 11559;RANJANA DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;

Linebreaking Properties: LineBreak.txt

11500..1152E;AL # Lo [46] RANJANA LETTER A..RANJANA LETTER HA
 1152F..11531;CM # Mc [3] RANJANA VOWEL SIGN AA..RANJANA VOWEL SIGN II

11532..11539;CM	# Mn	[8]	RANJANA VOWEL SIGN U..RANJANA VOWEL SIGN AI
1153A..1153B;CM	# Mc	[4]	RANJANA VOWEL SIGN O..RANJANA VOWEL SIGN AU
1153C..1153F;CM	# Mn	[4]	RANJANA AI LENGTH MARK..RANJANA SIGN ANUSVARA
11540;CM	# Mc		RANJANA SIGN VISARGA
11541;AL	# Lo		RANJANA SIGN AVAGRAHA
11542..11546;AL	# Lo	[5]	RANJANA SIGN JIHVAMULIYA..RANJANA LETTER FINAL
11547;AL	# Lo		RANJANA LETTER FINAL YA
11548;CM	# Mn		RANJANA SUBJOINER
11549..1154B;AL	# Lo	[3]	RANJANA OM..RANJANA SVASTI
1154C..1154E;BA	# Po	[3]	RANJANA DANDA..RANJANA CONTINUATION SIGN
11550..11559;NU	# Nd	[10]	RANJANA DIGIT ZERO..RANJANA DIGIT NINE

Syllabic Categories: IndicSyllabicCategory.txt

Indic_Syllabic_Category=Bindu

1153F	; Bindu	# Mn	RANJANA SIGN ANUSVARA
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Indic_Syllabic_Category=Visarga

11540	; Visarga	# Mc	RANJANA SIGN VISARGA
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Indic_Syllabic_Category=Virama

1153D	; Virama	# Mn	RANJANA SIGN VIRAMA
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Indic_Syllabic_Category=Vowel_Independent

11500..1150D	; Vowel_Independent	# Lo	RANJANA LETTER A..RANJANA LETTER AU
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Indic_Syllabic_Category=Vowel_Dependent

1152F..11531	; Vowel_Dependent	# Mc	[3]	RANJANA VOWEL SIGN A..RANJANA VOWEL SIGN II
11532..11539	; Vowel_Dependent	# Mn	[8]	RANJANA VOWEL SIGN U..RANJANA VOWEL SIGN SIGN AI
1153A..1153C	; Vowel_Dependent	# Mn	[3]	RANJANA VOWEL SIGN O..RANJANA AI LENGTH MARK

Indic_Syllabic_Category=Consonant

1150E..1152E	; Consonant	# Lo	[34]	RANJANA LETTER KA..RANJANA LETTER HA
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Indic_Syllabic_Category=Consonant_With_Stacker

11542..11543	; Consonant_With_Stacker	# Lo	[5]	RANJANA SIGN JIHVAMULIYA..RANJANA SIGN UPADHMANIYA
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Indic_Syllabic_Category=Consonant_Prefixed

11544..11545	; Consonant_Prefixed	# Lo	[2]	RANJANA LETTER EYELASH RA..RANJANA LETTER REPHA
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Indic_Syllabic_Category=Consonant_Final

11546..11547	; Consonant_Final	# Lo	[2]	RANJANA LETTER FINAL RA..RANJANA LETTER FINAL YA
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6.1 Positional Categories: IndicPositionalCategory.txt

Indic_Positional_Category=Right

1152F	; Right	# Mc	RANJANA VOWEL SIGN AA
11531	; Right	# Mc	RANJANA VOWEL SIGN II
11540	; Right	# Mc	RANJANA SIGN VISARGA


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11544      ; Top    # Lo      RANJANA LETTER EYELASH RA

# Indic_Positional_Category=Left
11530      ; Left   # Mc      RANJANA VOWEL SIGN I
11538      ; Left   # Mn      RANJANA VOWEL SIGN E
11547      ; Left   # Lo      RANJANA LETTER FINAL YA

# Indic_Positional_Category=Top
1153E..1153F ; Top    # Mn      RANJANA SIGN CANDRABINDU..RANJANA SIGN ANUSVARA
1153C      ; Top    # Mn      RANJANA AI LENGTH MARK
11542      ; Top    # Lo      RANJANA SIGN JIHVAMULIYA
11543      ; Top    # Lo      RANJANA SIGN UPADHMANIYA
11545      ; Top    # Lo      RANJANA LETTER REPHA

# Indic_Positional_Category=Bottom
11532..11537 ; Bottom # Mn      [2] RANJANA VOWEL SIGN U .. RANJANA VOWEL SIGN VOCALIC LL
1153D      ; Bottom # Mn      RANJANA SIGN VIRAMA

# Indic_Positional_Category=Left_And_Right
1153A      ; Left_And_Right # Mc  RANJANA VOWEL SIGN O

# Indic_Positional_Category=Top_And_Left
11539      ; Top_And_Left # Mn  RANJANA VOWEL SIGN AI

# Indic_Positional_Category=Top_And_Left_And_Right
1153B      ; Top_And_Left_And_Right # Mc      RANJANA VOWEL SIGN AU

# Indic_Positional_Category=Bottom_And_Right
11546      ; Bottom_And_Right # Lo      RANJANA LETTER FINAL RA

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7 References

Anderson, Deborah. 2014. “Comparison between Ranjana proposals (L2/13-243 and L2/09-192)” (L2/14-221). <https://unicode.org/L2/L2014/14221-ranjana-compare.pdf>

8 Acknowledgments

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	1150	1151	1152	1153	1154	1155	1156	1157
0	ଞ 11500	ଣ 11510	ଡ 11520	ଠି 11530	ଠି 11540	ଠି 11550		
1	ଞା 11501	ଞା 11511	ଞା 11521	ଠି 11531	ଠି 11541	ଠି 11551		
2	ଞଃ 11502	ଞଃ 11512	ଞଃ 11522	ଠି 11532	ଠି 11542	ଠି 11552		
3	ଞଃ 11503	ଞଃ 11513	ଞଃ 11523	ଠି 11533	ଠି 11543	ଠି 11553		
4	ଞଃ 11504	ଞଃ 11514	ଞଃ 11524	ଠି 11534	ଠି 11544	ଠି 11554		
5	ଞଃ 11505	ଞଃ 11515	ଞଃ 11525	ଠି 11535	ଠି 11545	ଠି 11555		
6	ଞଃ 11506	ଞଃ 11516	ଞଃ 11526	ଠି 11536	ଠି 11546	ଠି 11556		
7	ଞଃ 11507	ଞଃ 11517	ଞଃ 11527	ଠି 11537	ଠି 11547	ଠି 11557		
8	ଞଃ 11508	ଞଃ 11518	ଞଃ 11528	ଠି 11538	ଠି 11548	ଠି 11558		
9	ଞଃ 11509	ଞଃ 11519	ଞଃ 11529	ଠି 11539	ଠି 11549	ଠି 11559		
A	ଞଃ 1150A	ଞଃ 1151A	ଞଃ 1152A	ଠି 1153A	ଠି 1154A			
B	ଞଃ 1150B	ଞଃ 1151B	ଞଃ 1152B	ଠି 1153B	ଠି 1154B			
C	ଞଃ 1150C	ଞଃ 1151C	ଞଃ 1152C	ଠି 1153C	ଠି 1154C			
D	ଞଃ 1150D	ଞଃ 1151D	ଞଃ 1152D	ଠି 1153D	ଠି 1154D			
E	ଞଃ 1150E	ଞଃ 1151E	ଞଃ 1152E	ଠି 1153E	ଠି 1154E			
F	ଞଃ 1150F	ଞଃ 1151F	ଞଃ 1152F	ଠି 1153F				

Lantsa (Lantsa, Landza) and Vartu (Varula, Wartu) are unified with Ranjana.

Independent vowels

11500	अ	RANJANA LETTER A
11501	आ	RANJANA LETTER AA
11502	इ	RANJANA LETTER I
11503	ई	RANJANA LETTER II
11504	उ	RANJANA LETTER U
11505	ऊ	RANJANA LETTER UU
11506	ए	RANJANA LETTER VOCALIC R
11507	ऐ	RANJANA LETTER VOCALIC RR
11508	ओ	RANJANA LETTER VOCALIC L
11509	औ	RANJANA LETTER VOCALIC LL
1150A	वा	RANJANA LETTER E
1150B	वो	RANJANA LETTER AI
1150C	व्या	RANJANA LETTER O
1150D	व्यो	RANJANA LETTER AU

Consonants

1150E	क	RANJANA LETTER KA
1150F	ख	RANJANA LETTER KHA
11510	ग	RANJANA LETTER GA
11511	घ	RANJANA LETTER GHA
11512	ङ	RANJANA LETTER NGA
11513	च	RANJANA LETTER CA
11514	छ	RANJANA LETTER CHA
11515	ज	RANJANA LETTER JA
11516	झ	RANJANA LETTER JHA
11517	ञ	RANJANA LETTER NYA
11518	ट	RANJANA LETTER TTA
11519	ठ	RANJANA LETTER TTHA
1151A	ड	RANJANA LETTER DDA
1151B	ढ	RANJANA LETTER DDHA
1151C	न	RANJANA LETTER NNA
1151D	त	RANJANA LETTER TA
1151E	थ	RANJANA LETTER THA
1151F	द	RANJANA LETTER DA
11520	ध	RANJANA LETTER DHA
11521	न	RANJANA LETTER NA
11522	प	RANJANA LETTER PA
11523	फ	RANJANA LETTER PHA
11524	ब	RANJANA LETTER BA
11525	भ	RANJANA LETTER BHA
11526	म	RANJANA LETTER MA
11527	य	RANJANA LETTER YA
11528	र	RANJANA LETTER RA
11529	ल	RANJANA LETTER LA
1152A	व	RANJANA LETTER VA
1152B	श	RANJANA LETTER SHA
1152C	स	RANJANA LETTER SSA
1152D	ह	RANJANA LETTER SA
1152E	ळ	RANJANA LETTER HA

Dependent vowel signs

1152F	◌ा	RANJANA VOWEL SIGN AA
11530	◌ि	RANJANA VOWEL SIGN I
11531	◌ी	RANJANA VOWEL SIGN II
11532	◌ु	RANJANA VOWEL SIGN U
11533	◌ू	RANJANA VOWEL SIGN UU
11534	◌े	RANJANA VOWEL SIGN VOCALIC R
11535	◌ै	RANJANA VOWEL SIGN VOCALIC RR
11536	◌ो	RANJANA VOWEL SIGN VOCALIC L
11537	◌ौ	RANJANA VOWEL SIGN VOCALIC LL
11538	◌वा	RANJANA VOWEL SIGN E
11539	◌वो	RANJANA VOWEL SIGN AI
1153A	◌व्या	RANJANA VOWEL SIGN O

1153B ◌ी RANJANA VOWEL SIGN AU

Vowel length mark

1153C ◌◌ RANJANA AI LENGTH MARK

Various signs

1153D	◌	RANJANA SIGN VIRAMA • does not form conjuncts
1153E	◌	RANJANA SIGN CANDRABINDU
1153F	◌	RANJANA SIGN ANUSVARA
11540	◌	RANJANA SIGN VISARGA

Avagraha

11541 ऽ RANJANA SIGN AVAGRAHA

Sanskrit signs

11542	◌	RANJANA SIGN JIHVAMULIYA
11543	◌	RANJANA SIGN UPADHMANIYA

Consonant forms

11544	◌	RANJANA LETTER EYELASH RA
11545	◌	RANJANA LETTER REPHA
11546	◌	RANJANA LETTER FINAL RA
11547	◌	RANJANA LETTER FINAL YA

Subjoiner

11548	◌	RANJANA SUBJOINER • used for forming conjuncts
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Auspicious signs

11549	ॐ	RANJANA OM
1154A	ॐ	RANJANA ANJI

Head marks

1154B	॥	RANJANA SVASTI = yig mgo
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Punctuation

1154C	।	RANJANA DANDA = shad
1154D	॥	RANJANA DOUBLE DANDA = nyis shad
1154E	≡	RANJANA CONTINUATION MARK

Digits

11550	०	RANJANA DIGIT ZERO
11551	१	RANJANA DIGIT ONE
11552	२	RANJANA DIGIT TWO
11553	३	RANJANA DIGIT THREE
11554	४	RANJANA DIGIT FOUR
11555	५	RANJANA DIGIT FIVE
11556	६	RANJANA DIGIT SIX
11557	७	RANJANA DIGIT SEVEN
11558	८	RANJANA DIGIT EIGHT
11559	९	RANJANA DIGIT NINE