

# Hanyu Pinyin Romanization System



## I. Introduction

*Pinyin* 拼音, literally meaning “spell out the sound,” is currently one of the most commonly used Romanization systems for Mandarin Chinese. It is officially known as Hanyu Pinyin (Hanyu means “the Chinese language”). This system was developed by a government committee in China and was initially approved by the government in 1958. It is now widely accepted by international organizations and publications and has been adopted in Taiwan and other Chinese-speaking areas as the official Romanization system. Other systems that were once used in the United States and other overseas areas but now have been replaced by pinyin include Wade-Giles, Gwoyue Romatzyh (*Guoyu luomazi*), Mandarin Yale, *zhuyin*, and others.

Chinese characters are not like the alphabetical letters of English and other languages, which allow one to read the pronunciation directly from the spelling of a word. Therefore, the pinyin system was created to help describe the pronunciation of standard Mandarin Chinese, and it has become a very useful tool for entering Chinese-language text into computers. All letters of the English alphabet except for “v” are used in the pinyin system. However, the correspondence between letter and sound does not exactly follow that of any other language. Students must pay attention to the difference between pinyin letters and their English counterparts when first studying this Romanization system.

Each pinyin syllable represents a single character. A syllable consists of three parts: initial, final, and tone marker.

## II. Initials and Finals

Initials and finals, not vowels and consonants as in other languages, are the fundamental elements in the pinyin system. In most cases, there is one initial followed by one final in a Chinese syllable. In some cases, a syllable may have only a final, but no initial.

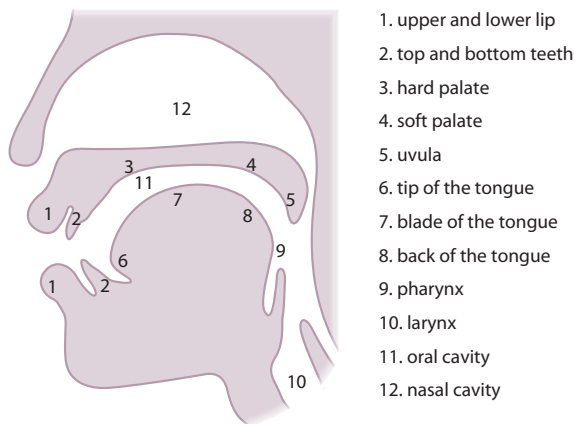


Figure 1 The articulators or organs of speech.

## Initials

There are 21 initials in the pinyin system. In the following table, the leftmost column shows the method of pronunciation of the initials, and the upper row shows their tongue positions.

**Table of Initials**

	Unaspirated	Aspirated	Nasal	Lateral	Fricative	Voiced continuants
Labial	b	p	m		f	
Alveolar	d	t	n	l		
Dental sibilant	z	c			s	
Retroflex	zh	ch			sh	r
Palatal	j	q			x	
Velar	g	k			h	

**Table of Initials (Pronounceable)**

When Chinese people pronounce these initials, they will automatically add a vowel to facilitate the pronunciation.

	1	2	3		4	5
1	bo	po	mo		fo	
2	de	te	ne	le		
3	zi	ci			si	
4	zhi	chi			shi	ri
5	ji	qi			xi	
6	ge	ke			he	

## Pronunciation Guides

These initials have major differences from their English counterparts:

- b/d/g: No vibration in the vocal cords.
- p/t/k: With strong exhalation.
  - h: Strong guttural with friction, similar to the German [h].
  - j: Touch the tip of the tongue to the back of the lower teeth and the front tongue to the front part of the hard palate. Then release the block of the air, and let it come through to make the sound.
  - q: Similar to the process to pronounce “j,” but with a strong flow of air when making the sound.
  - x: Touch the tip of the tongue to the back of the lower teeth. Arch the tongue so that the front of the tongue is close to the front of the hard palate and form a small space in between. Let the air come out of the space with friction to make the sound.
  - zh: Roll the tongue so that the tip of the tongue touches the front part of the hard palate.

- Hold the breath and form an enclosed space in the oral cavity. Then quickly release the block and let the air come out of the small passageway.
- ch: The first stage to form the block is similar to the pronunciation of “zh,” but when releasing the block to make the sound, there is a strong flow of air.
- sh: The front tongue approaches the front part of the hard palate and forms a small space in between.
- r: The pronunciation method is the same as for “sh,” but it is voiced.
- z: Touch the tip of the tongue to the back of the upper teeth to form a block. At the same time raise the soft palate to close the nose cavity. Quickly release the block to open a small passageway and let the air come out of it to make the sound.
- c: The first stage to form the block is similar to the pronunciation of “z,” but when releasing the block to make the sound, there is a strong flow of air.
- s: Similar to English “s” as in “snake.”

### Table of Finals

There are 35 finals in the pinyin system, including 7 simple finals, 13 compound finals, and 15 nasal finals.

Simple finals	a [a]	o [o] / uo [ua]	e [ɛ]	
	i [i]	u [u]	ü [ü]	
	-i ([ɿ] / [ʅ])			
Compound finals	ai [ai]	ua [ua]	ia [ia]	üe [yɛ]
	ei [ei]	uai [uai]	ie [iɛ]	
	ao [au]	uei (-ui) [uei]	iao [iaɯ]	
	ou [əu]		iou (-iu) [iəu]	
	er [ɛr]			
Nasal finals	an [an]	uan [uan]	ian [iɛn]	üan [yan]
	en [ən]	uen (-un) [uən]	in [in]	ün [yn]
	ang [aŋ]	uang [uaŋ]	iang [iaŋ]	
	eng [əŋ]	ueng (-ong) [uəŋ]	ing [iŋ]	iong [iuŋ]

Note:

- i [ɿ] appears only in its combination with initials “z,” “c,” and “s.”

zi, ci, si

- i [ʅ] appears only in its combination with initials “zh,” “ch,” and “sh.”

zhi, chi, shi

- Special final “er”

“Er” is a special final that can be attached to another syllable. Rather than two distinct syllables, the last “er” is contracted with the original syllable, simply written as “-r,” and therefore represented as one syllable. Theoretically, except for “er” itself, all the other syllables in the pinyin system can combine with “er” final to form new syllables. However, customarily only some syllables, especially colloquial words, words that refer to small items, informal actions, or places, and certain adjectives in the repetition form, take the “er” final. The “er” final is optional, and is mostly used by Mandarin speakers in northern China, especially in Beijing.

For example:

wǎn → wǎnr (bowl)

mén → ménr (door)

liáotiān → liáotiānr (to chat)

chànggē → chànggēr (to sing)

### III. Tones

The most distinct feature of Chinese is that it is a tonal language, which makes the pronunciation difficult for English speakers. Yet, in fact, Western languages also have tones. For example, saying “yes” with a rising tone or with a falling tone will express different connotations or emotions, but the meaning of the word will not change or be influenced by the different tones that the speaker chooses. However, tones in Chinese have the important function of differentiating meanings. The same pinyin syllable with different tones will stand for different characters. This is the major difference for the function of tones between a tonal language and a nontonal language.

Tones are differentiated by the voice pitch. Two features of the voice pitch need to be noted. First, the pitch of the tone is a relative concept and not an absolute one. Usually women have a higher pitch than men, and a person’s pitch will change in various situations; for example, a person’s voice pitch will be higher when he or she is excited, but lower when he or she is frustrated. However, such differences will not affect the semantic aspect of a word. Second, any change in pitch level should be a smooth and continuous process.

There are four tones in Mandarin Chinese:

1. the first tone or the high tone
2. the second tone or the rising tone
3. the third tone or the low tone
4. the fourth tone or the falling tone

The chart developed by the linguist Chao Yuan Ren (Zhao Yuanren) to mark tone values has been widely accepted in the field of Chinese linguistics and phonology. The vocal range is divided equally into five pitch levels, as marked by the numerals 1 through 5 on a vertical line, with 5 as the highest possible pitch and 1 the lowest. Each of the four tones is thus signified by the starting value and the end value of one’s voice pitch. The arrow indicates the direction of change of pitch during the pronunciation process.

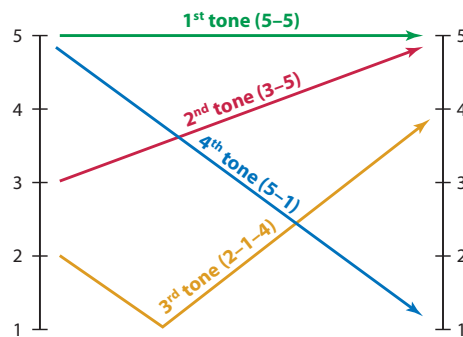


Figure 2 Tone values at five levels.

#### Neutral Tone

When a syllable in a word or in a sentence loses its original tone, it is said to have “neutral tone.” The term was proposed by Zhao Yuanren. Since the syllable loses its original tone, its tonal value is determined by the previous syllable. Generally speaking, a neutral tone after a third tone syllable is relatively higher compared to one that follows a first tone or a second tone syllable. A neutral tone after a fourth tone syllable is the lowest. However, the nuances among these situations are not emphasized in speaking and will not change the meaning of the syllable at all. In summary, the neutral tone is usually short and weak, and no tone marks are needed in Romanizing a neutral tone.

### Tone Marks

The first to fourth tones are marked by tone marks, ˉ ˊ ˋ ˋˊ, superimposed over the main vowel of the syllable. Use the following order when marking the tone in a syllable:

“a” “o” “e” “i” “u” “ü”

Note that “a” is the first vowel in the final to look for when placing the tone mark; if there is no “a,” then look for “o” or “e.” When “i” and “u” both appear in the same syllable, put the tone mark on the latter one.

Tone is an essential part of all Chinese syllables and serves to differentiate meanings. Consider, for example, zhū (pig) and zhù (to live), wèn (to ask) and wěn (to kiss), shuǐjiào (to sleep) and shuǐjiǎo (dumpling soup), tóngchuāng (literary word for classmate) and tóngchuáng (to share a bed). These syllables are very close in pronunciation but represent totally different characters and therefore meanings. The meaning of these words will not be confusing in reading or writing, but in speaking if one does not pronounce a tone correctly, it can be not only misleading in the intended meaning, but also amusing or even embarrassing. In saying “I want to ask the teacher,” you have to make sure to clearly pronounce the fourth tone verb “wèn (to ask),” not the third tone verb “wěn,” which would change the meaning of your sentence to “I want to kiss the teacher.” Therefore, it is essential for students to properly understand and pronounce the tones when they begin studying the Chinese language. Otherwise, they will develop improper habits, and inaccurate pronunciation will become fossilized and will be very difficult to correct.

### Tone Sandhi

There are four tones plus the neutral tone in the pinyin system; however, in speech, the tones are not always pronounced at their original pitch value. Instead tonal pronunciation varies when tones occur in certain combinations. The following are some special rules to consider:

#### 1. Half Third Tone

The third tone is pronounced at its full scale only when the syllable appears by itself or at the end of a sentence. When a third tone syllable is followed by other syllables, its pronunciation changes according to special rules.

When followed by a first, second, or fourth tone, a third tone is pronounced as half third tone. The half third tone is a variant of the regular third tone. It begins as the full third tone does, but once it reaches its low point, it remains there without rising again. Therefore, the length of the half third tone is shorter than the full third tone. Consider these examples:

hǎoshū dǎrén shǒupà

#### 2. Third Tone Sandhi

When one third tone syllable is immediately followed by another third tone syllable, the first one of the two changes to a second tone. When three or more third tone syllables occur in a row, the third tone sandhi rule telescopes upon itself and changes all but the final syllable to second tone. However, this is not always the case. Depending upon the phrase structure of the string of syllables, or upon whether the speaker chooses to pause, the “telescoping” of the tone sandhi may or may not occur.

Here are some examples:

Original tone	Actual tone	English meaning
yǐzi	yǐzi	chairs
wǔbǎ yǐzi	wúbá yǐzi	five chairs
yǒu wǔbǎ yǐzi	yóu wúbá yǐzi	have/there are five chairs
Wǒ yǒu wǔbǎ yǐzi.	Wó yóu wúbá yǐzi.	I have five chairs.

### 3. Fourth Tone Sandhi

The pitch value of a regular fourth tone is 5-1, while that of the modified fourth tone is 5-3. Therefore, the modified fourth tone is not as strong and emphatic as the regular tone. It starts at the same position as the regular fourth tone, but falls only about half as far as the regular fourth tone. A modified fourth tone is used when two fourth tone syllables follow each other immediately, so the first of the two changes to a modified fourth tone. The emphasis is placed on the second syllable.

yào**kàn** dà**mà** mào**bào** zuì**hòu**

### 4. Special Tone Sandhi for Yi and Bu

*Yi* meaning “one” and *bu* meaning “no, not” are two extremely common words in Chinese. Their original tones are *yī* and *bù*. However, their pronunciations follow the special rules of tone sandhi. When they precede a first, second, or third tone syllable, they are pronounced using fourth tone. When they precede a fourth tone, they are pronounced using second tone.

yītiān	yìnián	yìmiǎo	yíyàng
yìzhuō	yìchuán	yìzǎo	yíci
bùgāo	bùlái	bùhǎo	búyào
bùshuō	bútóng	bùshǎo	búduì

## IV. Spelling Rules

There are some special rules to observe when writing Chinese in pinyin.

### 1. The Use of “y” and “w”

When a syllable does not have an initial, it is required that “y” or “w” be used to make the separation between syllables clear. Some specific situations are listed below:

- ▶ When “i” and “u” are used independently as syllables, add “y” and “w” before “i” and “u” respectively.

i → yi    u → wu

- ▶ When “i” appears at the beginning of a syllable and is the only vowel in that syllable, add “y” before “i.”

in → yin    ing → ying

- ▶ When “i” and “u” appear at the beginning of a syllable, but there is another vowel in that syllable, change “i” into “y” and “u” into “w,” respectively.

iang → yang      uang → wang

- ▶ When “ü” appears at the beginning of a syllable, change “ü” to “u” and add the initial “y” to the beginning.

ü → yu      üan → yuan

### 2. The Use of “ü”

The initials “j,” “q,” and “x” cannot be combined with “u” to form syllables, but they are compatible with “ü.” In writing, “ü” is changed into “u” (the umlaut is dropped) when it combines with “j,” “q,” and “x” to form syllables.

ju      qu      xu

However, the umlaut remains when “ü” combines with other initials, for example “l” and “n.”

lü      nü

### 3. The Use of “iou,” “uei,” and “uen”

When these three finals combine with initials to form syllables, the middle vowels are dropped, and the finals are written as “iu,” “ui,” and “un.”

liou → liu      duei → dui      chuen → chun

If there is no initial in the syllable, according to rule 1, “y” or “w” need to be used.

iou → you      uei → wei      uen → wen

### 4. The Use of Apostrophes

Syllables that can form a word are usually grouped together in writing. For syllables beginning with “a,” “o,” and “e,” in order to avoid confusion with the previous syllable, an apostrophe is used for separation. Compare the following syllables:

piāo (one syllable): to float	vs.	pí'ǎo (two syllables): leather coat
xiān (one syllable): first	vs.	Xi'ān (two syllables): name of a city

### 5. The Use of Capital Letters

In the following two situations, the first letter of the first syllable needs to be capitalized.

Proper nouns

Personal names:	Máo Zédōng	
Place names:	Běijīng	Měiguó (the United States)

The beginning of a sentence

Wǒ shì Zhōngguó rén. (I am Chinese.)

## Exercises

### I. Pronounce the following tone combinations.

#### 1. First tone with other tones

tāitīng	tālái	tādǒng	tāmà
hētāng	shūnán	hēshuǐ	dāngdài
tīngzhōng	Zhōngguó	Zhōng Měi	chīyào

#### 2. Second tone with other tones

shéishuō	shéilái	shéizǒu	shéiqù
méngāo	wéilán	nándǒng	xuébào

#### 3. Third tone with other tones

wǒtīng	wǒlái	wǒxiě	wǒqù
nǐchī	nǐlái	nǐhǎo	nǐyào
dǎzhōng	dǎshéi	dǎgǒu	dǎyào
hǎohē	hǎorén	hěnyuǎn	wǒkùn

#### 4. Fourth tone with other tones

yàotīng	yàolái	yàomǎi	yàomài
dàshū	kànshéi	fānwǎn	kànbào

### II. Neutral Tone

#### 1. Pronounce the following words.

tīngle	láiile	dǒngle	qùle
tāde	liángde	wǒde	huàide
àiren	bàba	bāngshou	lánzi
duìtou	jìxing	pánsuan	zuǒfang

#### 2. Read the following tongue twister, and pay attention to the neutral tones.

Zuò mǎimai	Doing Business
Mǎimai rén zuò mǎimai	Businessmen do business
Mǎimai bùgōng méi mǎimai	If unfair, there will be no business
Méi mǎimai méiqián zuò mǎimai	No business, no money for business
Mǎimai rén zuò mǎimai děi shízai	Businessmen must be honest in doing business

### III. Pronounce the following words. Pay attention to the tone change of "yi" and "bu."

dìyī	yìzhí	yìqǐ
yìwǔyìshí	yìběnwànlǐ	yìfānfēngshùn
yídìng	yìcì	yìwèi



yíchàngyíhè	yìxīnyíyì	yímúyíyàng
bùdǒng	bùlái	bùzhīdào
bùliǎojiě	bùyǎnwǎnlǐ	
búhuì	búqù	búzài
búyào	bùlǐbúqì	bújiábúsè

**IV. Read the following words with the “er” final.**

dāobàr	hàomǎr	míngpáir
xiédàir	zhàlánr	shōutānr
yàofāngr	yíkuàir	diàojiàr
yíxiàr	zhàopiànr	chàdiǎnr
yǎnjìngr	huāyàng	nǎoguār
chágǔǎnr	huǒguōr	yóuchuōr
fàngǔǎnr	xiǎotōur	miàntiáor
shǒutàor	hútòngr	zàizhèr

**V. Read the following words, phrases and sentences.**

kǎoshì	yíkuàir	xiàbān
rìzi	hǎohāor	xiāofèi
píjiǔ	shuōmíng	fàndiàn
xiàtiān	fēicháng	rèliè
báicài	qīnlüè	xióngmāo
zēngjiā	dōngnán	niánqīng
zúqiú	fēijī	zuòhuór
jùbèi	gǎozhǐ	chūnjuǎnr
gǎn xìngqu	shāndōng	kǒuyīn
yīngxióng hǎohàn	shānmíng shuǐxiù	suān tián kǔ là

Wǒ shì Měiguó rén.  
Yinián zhī jì zàiyú chūn.

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