

Mandarin Chinese Phonology

	a [ä]	e [ɛ]	i [i]	í [ɿ]	î [ɨ]	u [u]	ü [y]	ai [ai]	ei [ei]	ao [au]	ou [ou]	ia [iä]	ie [ie]	iao [iaʊ]	iou [iou]	ua [uä]	uo [uo]	uai [uai]	uei [uei]	üe [yɛ]	an [an]	en [ən]	ian [iən]	in [in]	uan [uan]	uen [uən]	üan [yan]	ün [yn]	ang [ɑŋ]	eng [ən]	iang [iɑŋ]	ing [in]	uang [uɑŋ]	ueng [uən]	ung [un]	üng [yn]	er [ɐ]	
-	a	e	yi	\	\	wu	yu	ai	\	ao	ou	ya	ye	yao	you	wa	wo	wai	wei	yue	an	en	yan	yin	wan	wen	yuan	yun	ang	\	yang	ying	wang	weng	\	yong	er	
b [p]	ba	\	bi	\	\	bu	\	bai	bei	bao	\	\	bie	biao	\	\	bo	\	\	\	ban	ben	bian	bin	\	\	\	\	bang	beng	\	bing	\	\	\	\	\	\
p [pʰ]	pa	\	pi	\	\	pu	\	pai	pei	pao	pou	\	pie	piao	\	\	po	\	\	\	pan	pen	pian	pin	\	\	\	\	pang	peng	\	ping	\	\	\	\	\	\
d [t]	da	de	di	\	\	du	\	dai	\	dao	dou	\	die	diao	diu	\	duo	\	dui	\	dan	\	dian	\	duan	dun	\	\	dang	deng	\	ding	\	\	dong	\	\	
t [tʰ]	ta	te	ti	\	\	tu	\	tai	\	tao	tou	\	tie	tiao	\	\	tuo	\	tui	\	tan	\	tian	\	tuan	tun	\	\	tang	teng	\	ting	\	\	tong	\	\	
f [f]	fa	\	\	\	\	fu	\	\	fei	\	fou	\	\	\	\	\	fo	\	\	\	fan	fen	\	\	\	\	\	\	fang	feng	\	\	\	\	\	\	\	
m [m]	ma	\	mi	\	\	mu	\	mai	mei	mao	mou	\	mie	miao	miu	\	mo	\	\	\	man	men	mian	min	\	\	\	\	mang	meng	\	ming	\	\	\	\	\	
n [n]	na	ne	ni	\	\	nu	nǚ	nai	nei	nao	\	\	nie	niao	niu	\	nuo	\	\	nǚe	nan	nen	nian	nin	nuan	\	\	\	nang	neng	niang	ning	\	\	nong	\	\	
l [l]	la	le	li	\	\	lu	lǚ	lai	lei	lao	lou	lia	lie	liao	liu	\	luo	\	\	lǚe	lan	\	lian	lin	luan	lun	\	\	lang	leng	liang	ling	\	\	long	\	\	
g [k]	ga	ge	\	\	\	gu	\	gai	gei	gao	gou	\	\	\	\	gua	guo	guai	gui	\	gan	gen	\	\	guan	gun	\	\	gang	geng	\	\	guang	\	gong	\	\	
k [kʰ]	ka	ke	\	\	\	ku	\	kai	\	kao	kou	\	\	\	\	kua	kuo	kuai	kui	\	kan	ken	\	\	kuan	kun	\	\	kang	keng	\	\	kuang	\	kong	\	\	
h [x]	ha	he	\	\	\	hu	\	hai	hei	hao	hou	\	\	\	\	hua	huo	huai	hui	\	han	hen	\	\	huan	hun	\	\	hang	heng	\	\	huang	\	hong	\	\	
j [tɕ]	\	\	ji	\	\	\	ju	\	\	\	\	jia	jie	jiao	jiu	\	\	\	\	jue	\	\	jian	jin	\	\	juan	jun	\	\	jiang	jing	\	\	\	jiong	\	
q [tɕʰ]	\	\	qi	\	\	\	qu	\	\	\	\	qia	qie	qiao	qiu	\	\	\	\	que	\	\	qian	qin	\	\	quan	qun	\	\	qiang	qing	\	\	\	qiong	\	
x [ɕ]	\	\	xi	\	\	\	xu	\	\	\	\	xia	xie	xiao	xiu	\	\	\	\	xue	\	\	xian	xin	\	\	xuan	xun	\	\	xiang	xing	\	\	\	xiong	\	
z [ts]	za	ze	\	zi	\	zu	\	zai	zei	zao	zou	\	\	\	\	\	zuo	\	zui	\	zan	zen	\	\	zuan	zun	\	\	zang	zeng	\	\	\	\	zong	\	\	
c [tsʰ]	ca	ce	\	ci	\	cu	\	cai	\	cao	cou	\	\	\	\	\	cuo	\	cui	\	can	cen	\	\	cuan	cun	\	\	cang	ceng	\	\	\	\	cong	\	\	
s [s]	sa	se	\	si	\	su	\	sai	\	sao	sou	\	\	\	\	\	suo	\	sui	\	san	sen	\	\	suan	sun	\	\	sang	seng	\	\	\	\	song	\	\	
zh [tʃ]	zha	zhe	\	\	zhi	zhu	\	zhai	\	zhao	zhou	\	\	\	\	zhua	zhuo	zhuai	zhui	\	zhan	zhen	\	\	zhuan	zhun	\	\	zhang	zheng	\	\	zhuang	\	zhong	\	\	
ch [tʃʰ]	cha	che	\	\	chi	chu	\	chai	\	chao	chou	\	\	\	\	\	chuo	chuai	chui	\	chan	chen	\	\	chuan	chun	\	\	chang	cheng	\	\	chuang	\	chong	\	\	
sh [ʃ]	sha	she	\	\	shi	shu	\	shai	shei	shao	shou	\	\	\	\	shua	shuo	shuai	shui	\	shan	shen	\	\	shuan	shun	\	\	shang	sheng	\	\	shuang	\	\	\	\	
r [ʐ][ʒ]	\	re	\	\	ri	ru	\	\	\	rao	rou	\	\	\	\	\	ruo	\	rui	\	ran	ren	\	\	ruan	run	\	\	rang	reng	\	\	\	\	rong	\	\	

- Notes:
- Each row in this table represents an Initial, and each column represents a Final. Only combinations with common Hanzi are considered. Interjections and dialectal words are excluded;
 - Yellow cells indicate that the Pinyin spelling for the pronunciation in that cell is irregular. It is not directly combined from the Initial and the Final;
 - Regardless of whether the corresponding Pinyin spelling is regular or not, the actual pronunciation in each cell can be viewed as a combination of the pronunciations of the corresponding Initial and Final.

- About Tones:
- The tones of Mandarin are divided into: First tone (ˉ [1]), Second tone (ˊ [4]), Third tone (ˋ [11]), Fourth tone (ˋ [V]), and Neutral tone (unmarked);
 - The tone mark is placed on a specific letter, determined by the priority order: **a > o > e > i,u > ü**. If both **i** and **u** are present, the later one is chosen;
 - If the tone mark is placed on the letter **i**, the dot above the **i** must be omitted.

- General rules for irregular Pinyin spellings (yellow cells):
- When Initials that cannot be directly combined with the Final **e** (the four Initials **b, p, m, f**) combine with the Final **uo**, the **uo** is abbreviated to **o**;
 - When **iou, uei, uen, ung, üng** are preceded by an Initial, they are respectively rewritten as **iu, ui, un, ong, iong**;
 - If a Final beginning with the letter **i** or **ü** appears alone (with no preceding Initial), the first letter is replaced with **y** (only for the letter **i**) or a **y** is added before it. However, when **üng** appears alone, it is written as **yong**;
 - If a Final beginning with the letter **u** appears alone (with no preceding Initial), the **u** is replaced with **w**. However, when the Final **u** appears alone, it is written as **wu**;
 - After applying the above rules, if any of the letters **j, q, x, y** appears, the **ü** will be replaced with **u**.