

## \*\* The Extended Ideographic Description Language (IDLx) \*\*

	Unicode Name	A	Name	B	B	Examples
a-1	left to right	☐	left-right	⊕	⊖	潰: ⊖ 彳 貫
a-2	above to below	☐	top-down	⊖	⊕	稟: ⊖ 亠 木
a-3	surround from bottom left	☐	L-shaped, left first	⊕⊖	⊖⊕	毳: ⊖ 毛 炎
a-4	...	...	L-shaped, top first	⊖⊕	⊕⊖	廷: ⊖ 壬 廴
a-5	surround from upper left	☐	Γ-shaped	⊖	⊕	慮: ⊖ 虍 思
a-6	surround from upper right	☐	package	⊖	⊕	截: ⊖ 戔 隹
a-7	/	/	surround from bottom right	⊕	⊖	弋: ⊕ 一 戈
a-8	surround from below	☐	plug	⊖	⊕	函: ⊖ 凵 口
a-9	surround from left	☐	C-shaped	⊖	⊕	玉: ⊖ 王 丶
a-10	surround from top	☐	surround from top	⊖	⊕	閒: ⊖ 門 月
a-11	/	/	reverse C-shaped	⊕	⊖	𠂇: ⊕ 弓 工 工
a-12	full surround	☐	surround	⊖	⊕	函: ⊖ 白 夕
a-13	overlaid	☐	crossover	⊖	⊕	夫: ⊖ 二 人
a-14	/	/	no operator		●	丿: ●
a-15	/	/	geta mark		■	嚴: ● 严 ■
a-16	/	/	rotate 180°	⊖	⊕	𠂇: ⊖ 予
a-17	/	/	horizontal flip	⊖	⊕	王: ⊖ 正
a-18	/	/	similar	⊖	⊕	龟: ● 从 ⊖ 电
a-19	/	/	parentheses; group	( )	( )	峯: (● 山 水 土)

## Notes:

**a-1, a-2:** The left-right operator ⊕ and the top-down operator ⊖ are the most basic analytical operators of IDLx.

**a-3:** The L-shape, ⊕, is the only binary relationship that occurs in both of its realizations, ⊖ and ⊕; this case is well known to learners of Kanji, as there are many common glyphs with either type of operator.

The choice between ⊖ and ⊕ depends on the element that occupies the left and bottom of the character in question: only 廴 and 辶 (廴, 辶) are written *after* the top right and hence need ⊖, as in 這: ⊖ 言 辶 (observe that using standard Unicode IDL, we are forced to write this as 這: ☐ 辶 言, which, crucially, does not preserve the order in which the factors are normally written).<sup>1</sup> All other elements (i.e. except for 廴 and 辶) that enclose another one from the left and from below in an L-shape take precedence; hence, in e.g. 走 comes first and 力 comes second, so its formula is 走: ⊖ 走 力.

**a-11:** XXXXX XXXXX XXXXX XXXXX XXXXX the reversed C-shape: lowest frequency, missing from Unicode IDCs, erroneously replaced by ⊖ in formula 𠂇: ☐ 弓 工 工 for which we write 𠂇: ⊕ 弓 工 工.

**a-15:** The symbol ■ originated in Japanese manual typesetting. When a composer couldn't clearly read a character

in the manuscript or was unable to find a certain kanji in the type cases, they'd instead pick any sort and put it wrong side first onto the composing stick. When galley proofs were printed, that upside-down sort would leave a mark similar to ■, making it visually clear that something was still missing. In the same way, we use ■ to stand in for an unresolved element in the formulas. For example, we know the upper left part of 嚴 is 严, a fairly common element, but the lower right part is seemingly not encoded in Unicode, so we write out the formula 嚴: ⊖ 严 ■; this is a syntactically valid way of stating what we can and what we cannot say about that glyph. In other words, ■ represents the unspecified element as much as an *x* in a mathematical formula represents the unknown quantity.

**a-13:** The crossover operator ⊖ is to operators what the geta mark ■ is to elements; it represents an unspecified or underspecified operation. Most of the time, ⊖ really represents an element being overlaid onto another one, as in 夫: ⊖ 二 人, but more generally, it may be used in any place where no other operator fits, as, for example, in ■ ■ ■ ■ ■.

## Notes

1) — see <https://raw.githubusercontent.com/cjkvi/cjkvi-ids/master/ids.txt> for actual examples

徵: (⊖ 彳 (⊖ 山 一 壬) 攴)

毳: 毳 as 毳: (U 毳) 毳  
 廷: 廷 as 廷: (U 廷) 廷  
 玉: 玉 as 玉: (U 玉) 玉、

函: 函 as 函: (U 函) 函  
 國: 國 or 國 as 國: (U 國) 國 or

	Name	B	Examples	X
a-1	left-right	◐	潰: 潰 貫	
a-2	top-down	◑	稟: 稟 木	
a-3	L-shaped, left first	◒	毳: 毳 炎	毳: (U 毳) 毳 炎
a-4	L-shaped, top first	◓	廷: 廷 壬 乚	廷: (U 廷) 廷 壬 乚
a-5	Γ-shaped	◔	慮: 慮 思	慮: (U 慮) 慮 思
a-6	package	◕	截: 截 佳	截: (U 截) 截 佳
a-7	surround from bottom right	◖	弋: 弋 一 弋	弋: (U 弋) 弋 一 弋
a-8	plug	◗	函: 函 必 口	函: (U 函) 函 必 口
a-9	C-shaped	◘	玉: 玉 王、	玉: (U 玉) 玉 王、
a-10	surround from top	◙	閒: 閒 門 月	閒: (U 閒) 閒 門 月
a-11	reverse C-shaped	◚	彎: 彎 弓 工 工	彎: (U 彎) 彎 弓 工 工
a-12	surround	◛	囟: 囟 白 々	囟: (U 囟) 囟 白 々
a-13	crossover	◜	夫: 夫 二 人	
a-14	no operator	◝	丿: 丿	
a-15	geta mark	◞	廉: 廉 严	
a-16	rotate 180°	◟	𠂇: 𠂇 予	
a-17	horizontal flip	◠	五: 五 正	
a-18	similar	◡	龟: 龟 从 电	
a-19	parentheses; group	( )	亮: 亮 一 口 一 土 九	

	Used	G	B	Op	L	T	R	B	l	t	r	b
c-1	Yes	◐	◑									
c-2	Yes	◒	◓									
c-15	No	◐	◑	◒	◓							
c-16	No	◒	◓	◔	◕	◖						

	Used	G	B	Op	L	T	R	B	l	t	r	b
c-7	Yes	◐	◑	◒	◓	◔	◕		+	+		
c-4	Yes	◒	◓	◔	◕	◖	◗		-	+	+	
c-3	Yes	◐	◑	◒	◓	◔	◕	◖	+	-	+	+
c-5	Yes	◒	◓	◔	◕	◖	◗		+	+		+
c-6	Yes	◐	◑	◒	◓	◔	◕	◖	+	+	+	
c-19	No	◐	◑	◒	◓	◔	◕	◖	-	-	+	+
c-17	No	◒	◓	◔	◕	◖	◗	◘	-	-	+	+
c-18	No	◐	◑	◒	◓	◔	◕	◖	+	-		+

	Used	G	B	Op	L	T	R	B	l	t	r	b
c-12	Yes	◐	◑	◒	◓	◔	◕	◖	-	+	+	+
c-8	Yes	◒	◓	◔	◕	◖	◗		+	+	+	
c-9	Yes	◐	◑	◒	◓	◔	◕	◖	+	+		+
c-10	Yes	◒	◓	◔	◕	◖	◗		+	+	+	
c-25	No	◐	◑	◒	◓	◔	◕	◖	+	+		+
c-20	No	◒	◓	◔	◕	◖	◗	◘				
c-22	No	◐	◑	◒	◓	◔	◕	◖				
c-24	No	◒	◓	◔	◕	◖	◗	◘				

	Used	G	B	Op	L	T	R	B	l	t	r	b
c-14	Yes	☉	●	U	◐	◑	◒	◓				
c-26	No	☉	●	∩	◐	◑	◒	◓				

	Name	B	E
b-1	left/right	◐	◑
b-2	top/down	◒	◓
b-3	surround from bottom left	◑	/
b-4	surround from upper left	◒	◑
b-5	surround from upper right	◒	◓
b-6	surround from bottom right	◑	◓
b-7	surround from below	◑	◓
b-8	surround from left	◒	◑
b-9	surround from top	◒	◓
b-10	surround	☉	●
b-11	any operator		○
b-12	vertical flip		⬇

	Unicode Name	A	Name	C	E	Examples
1	left to right	◻	left/right	◐	◑	潰:◐ 彳 貫
2	above to below	◻	top/down	◒	◓	稟:◒ 畝 木
3	surround from bottom left	◻	surround from bottom left	◑		毯:◑ 毛 炎
4						廷:◑ 壬 廴
5	surround from upper left	◻	surround from upper left	◒	◑	慮:◒ 虍 思
6	surround from upper right	◻	surround from upper right	◒	◓	截:◒ 戔 隹
7	/	/	surround from bottom right	◑	◓	弋:◑ 一 弋
8	surround from below	◻	surround from below	◑	◓	囟:◑ 兂 口
9	surround from left	◻	surround from left	◒	◑	玉:◒ 王 、
10	surround from top	◻	surround from top	◒	◓	閒:◒ 門 月
11	/	/	surround from right		◑	
12	full surround	◻	surround	●	●	囟:● 白 夕
13	overlaid	◻	crossover	⊗		夫:⊗ 二 人
14	/	/	any operator	○		
15	/	/	no operator	●		丿:●
16	/	/	unspecified element	≡		廉:● 严 ≡
17	/	/	rotate 180°	☹		𠂇:☹ 予
18	/	/	horizontal flip	↔		王:↔ 正
19	/	/	vertical flip		⬇	
20	/	/	similar	≈		𠂇:≈ 从 ≈ 电
21	/	/	parentheses; group			𠂇:(◐ 一 口 一 土 九)
22	left to middle and right	◻	/			衍:(◑ 彳 彳 子)
23	above to middle and below	◻	/			衰:(◒ 一 艹 衣)

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《汉字信息字典》上海交通大学汉字编码组,上海汉语拼音文字研究组编著,樊静责任编辑;上海:1988

《**字信息字典**》\*\*  
本书使用的数字，符号一览表  
字形结构

符	表示内容	例
/	表示上下组合关系	星:日/生
//	表示左右组合关系	把:扌//巴
>, <	表示包容或被包容关系	这:文<讠 (“讠”包容“文”)
	表示嵌套关系	国:口玉
( )	表示层次关系	疑:(匕/矢)/(マ/疋)

本书使用的数字、符号一览表[https://raw.githubusercontent.com/zhaozhiyuan/zhaozhiyuan.github.io/master/number\\_symbols\\_list.md](https://raw.githubusercontent.com/zhaozhiyuan/zhaozhiyuan.github.io/master/number_symbols_list.md)

本使用的字，符一表<https://raw.githubusercontent.com>

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