

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

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

Notes:

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

a-3: The L-shape, ①⊖, 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: ③ 言 辶 (observe that using standard Unicode IDL, we are forced to write this as 這: ☐ 言, which, crucially, does not preserve the order in which the factors are normally written).¹ 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. 𢀓, 走 comes first and 力 comes second, so its formula is 𢀓: ③ 走 力.² **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: ⑪ 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 厩 is 厩, a fairly common element, but the lower right part is seemingly not encoded in Unicode, so we write out the formula 厩: ⑮ 厩 ■; 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: ⑬ 二 人, but more generally, it may be used in any place where no other operator fits, as, for example, in ■ ■ ■ ■ ■.

徵: ① 彳 (② 山 一 壬) 攴
 毳: ③ 毛 炎 as 毳: (④ ⑤ ⑥) 毛 炎
 廷: ⑦ 壬 廴 as 廷: (⑧ ⑨ ⑩) 壬 廴
 玉: ⑪ 王 、 as 玉: (⑫ ⑬ ⑭) 王 、
 函: ⑮ 必 凵 as 函: (⑯ ⑰ ⑱) 必 凵
 國: ⑲ 囗 或 as 國: (⑳ ㉑ ㉒ ㉓) 囗 或

	Name	B	Examples	X
a-1	left-right	◐	潰:◐ 彳 貫	
a-2	top-down	◑	稟:◑ 亙 木	
a-3	L-shaped, left first	◒	毯:◒ 毛 炎	毯:(◑ ◒ ◑) 毛 炎
a-4	L-shaped, top first	◓	廷:◓ 壬 廴	廷:(◑ ◓ ◑) 壬 廴
a-5	Γ-shaped	◔	慮:◔ 虍 思	慮:(◑ ◔ ◑) 虍 思
a-6	package	◕	截:◕ 戔 隹	截:(◑ ◕ ◑) 戔 隹
a-7	surround from bottom right	◖	弋:◖ 一 弋	弋:(◑ ◖ ◑) 一 弋
a-8	plug	◗	函:◗ 夨 凵	函:(◑ ◗ ◑) 夨 凵
a-9	C-shaped	◘	玉:◘ 王 丶	玉:(◑ ◘ ◑) 王 丶
a-10	surround from top	◙	閒:◙ 門 月	閒:(◑ ◙ ◑) 門 月
a-11	reverse C-shaped	◚	𠂇:◚ ◑ 弓 工 工	𠂇:(◑ ◚ ◑) 弓 工 工
a-12	surround	◛	囟:◛ 白 夂	囟:(◑ ◛ ◑) 白 夂
a-13	crossover	◜	夫:◜ 二 人	
a-14	no operator	◝	丿:◝	
a-15	geta mark	◞	廉:◞ 严 ◞	
a-16	rotate 180°	◟	𠂇:◟ 予	
a-17	horizontal flip	◠	五:◠ 正	
a-18	similar	◡	𠂇:◡ 从 ◡ 电	
a-19	parentheses; group	()	𠂇:(◑ 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	◓	◒	◓	◑	◑	◑	◒				
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: 窗 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 佳
7	/	/	surround from bottom right			弋: 一 弋
8	surround from below		surround from below			幽: 㝱 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 夆
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			五: 正
19	/	/	vertical flip			
20	/	/	similar			龟: 从 电
21	/	/	parentheses; group			亮: (亠 口 冫 土 九)
22	left to middle and right		/			衍: (彳 彳 予)
23	above to middle and below		/			衰: (亠 冫 衣)

xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx | xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx xxx

	Unicode Name	A	Name	B	C	E	Examples
1	left to right		left/right				潰: 貫
2	above to below		top/down				稟: 木
3	surround from bottom left		surround from bottom left				毯: 炎 廷: 王
4	surround from upper left		surround from upper left				慮: 思
5	surround from upper right		surround from upper right				截: 佳
6	/	/	surround from bottom right				弋: 一
7	surround from below		surround from below				函: 必
8	surround from left		surround from left				玉: 王
9	surround from top		surround from top				閒: 門
10	/	/	surround from right				
11	full surround		surround				囟: 白
12	overlaid		crossover				夫: 二
15	/	/	any operator				
16	/	/	no operator				丿:
15	/	/	unspecified element				廉: 严
17	/	/	rotate 180°				去: 予
18	/	/	horizontal flip				五: 正
19	/	/	vertical flip				
20	/	/	similar				龟: 从
13	/	/	parentheses; group	()			电:
13	left to middle and right		/	/			寔: 口
14	above to middle and below		/	/			衰: 衣

master/ids.txt for actual examples

Notes

1. see <https://raw.githubusercontent.com/cjkvi/cjkvi-ids/>2. see <https://xxxxxxx.com/xxxx/xxxx/xxxx/ids.txt> xxxxx
xxxx xxxxx xxxxx xxxxx xxxxx xxxxx