```
** Formulas **
 u-cjk/4e00 — ●
u-cjk/4e07 万 〇一勺
u-cjk/4e08 丈 〇ナ\
u-cjk/4e09 三 〇一二
u-cjk/4e08

u-cjk/4e09

u-cjk/4e0a

u-cjk/4e0b

r 〇ート

u-cjk/4e0b

r 〇一ト

u-cjk/4e0d

u-cjk/4e0d

u-cjk/4e0e

u-cjk/4e0e

u-cjk/4e0e

u-cjk/4e0f

u-cjk/4e10

u-cjk/4e11

u-cjk/4e12

u-cjk/4e13

で 〇二
                             刀上
                                                                       [...]
[...]
                                                                       u-cjk-xd/2b81b 齷 ●齒星
u-cjk-xd/2b81c 齯 ●齿兒
u-cjk-xd/2b81d 鼈 ●敞亀
                                                                       u-cjk-sym/3005 々
                                                                       u-cjk-sym/3021 | ▼

u-cjk-sym/3022 || ① | |

u-cjk-sym/3023 || ① ||
                                                                       u-cjk-sym/3024
                                                                       u-cjk-sym/3025 ซึ ●
                                                                       u-cjk-sym/3026 —
                                                                                                 \nabla
                                                                      u-cjk-sym/3027 = 〇一一
u-cjk-sym/3027 = 〇一二
u-cjk-sym/3028 = 〇一二
u-cjk-sym/3028 = 〇一二
u-cjk-sym/3028 = 〇 一二
                             コ矢
                                                                       u-cjk-sym/3038
                                                                       u-cjk-sym/3039
                                                                       u-cjk-sym/303a ∰ ▽
 [...]
                                                                       u-cjk-sym/303b ≷
u-cjk-sym/303d ^\
                                                                       u-cjk-rad1/2f00 — ▽
                                                                       u-cjk-rad1/2f01 | ▽
                                                                       u-cjk-rad1/2f02 › ▽
                                                                       [\ldots]
                                                                       jzr/e100 申 ● / 甲
                                                                       jzr/e100 申 ②白ノ
jzr/e100 申 ②白ノ
jzr/e101 鬼 ●ノ鬼
jzr/e102 艮 ①艮、
 \lceil \dots \rceil
[...]
                                                                      hzk1/b3d0 &hzk1#xb3d0; ●厂①●土方久
hzk1/d044 &hzk1#xd044; ①(●住乃
hzk1/d143 &hzk1#xd143; ①(●什●勹用
hzk1/d2ea &hzk1#xd2ea; ①(黄
                                                                       [\ldots]
```

萬字一覽置換索引

2

```
u-cjk/4e00
              一 <1>
                                               jzr/e13f
                                                        jzr/e14d
                                              <111121111213434112431>
<11112111121343412112431>
                                                                <11112111121343445412121>
                                                                <111211121344345412121>
u-cjk/4e30
                                        ** Factors **_

→ 1
                  - 1

─v1

                                                         jzr-e167
                                                   ~v2
                  1 - 11
1 - \overline{11}
                                         jzr-e24d
                  jzr-e15a
\overline{1} - \overline{11}
                                                   丰
                                         jzr-e2b3
\overline{1} - \overline{11}
                                                   苒
1 - 11
                                         jzr-e14d
                                                   1
                  _ 1112
1 - 11
                                         jzr-e13f
                                                   丰
\bar{1} - \bar{1}\bar{1}
                    1112
1 - 11
                     1112
                                                   丰x2h jzr-e225 ‡
[...]
jzr-e21a
jzr-e1a6
                  丁 12
丁 12
丁 121
1 - 12
1 - 12
                                                                   Т
                                                   丁v1
\overline{1} \overline{\phantom{1}} \overline{12}
1 — 12
                                                   ⊥x4q
                                                                   鈓
                     121
                                                  重
# 1 — 12
1 — 12
1 — 12
                                           jzr-e2d6
                     丁 1212
                  丁 1212
丁 12121
丁 12121
丁 12122111
                                                   正xlr
                                                                   正
1 - 12
                                         jzr-e21c
[...]
    25
                  门 25
                     25
                                                   ∏v1
∏x2c
2
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                                                         jzr-e2e3
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                                         jzr-e352
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                                                   jzr-e365
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                                                   □x2c
                     251
                                                                   Ш
                                                   □x2h
    25
                    251
                                                   □x2v
                                                                   圃
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                                                   □x3h
    25
                     251
                                                   □x3p
                                                                   品間
    25
                     251
                                                   □x4q
                                                  19月4月
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                                         jzr-e2a9
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                     251
                                         jzr-e2aa
                  ☐ 251
☐ 2511
☐ 2511
    25
                                         izr-e2dd
2 2 2 2 2 2 2 2
    25
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    25
                    2511
    25
                    2511
    25
                    2511
                                                   ∃x2h
    25
                     2511
                                                   ∃x2v
    25
                     2511
                                                   ∃х3р
    25
                     2511
                                                   日x4q
    25
                  2511
[...]
3 J 31
                  一 31
```

```
车午
                          一 31115
                         一 3112
      31
      31
                         一 3112
3333333333333
                          一 3112
                                                                       牛x2v
      31
                          ⊬ 3112
                                                                       牛x4q
生
      31
                          一
      31
                             31121
                         ⊬ 31121
                                                                       荦x2h
                                                                                              甡
      31
                         一 311212
      31
                         一 3112121
      31

√ 31122221

      31
                                                         jzr-e18d
                                                                       無朱用朱缶失矢气

√ 311234

      31
                         ⊬ 31125
                                                         jzr-e353
      31
                         一 311252
      31
                                                         jzr-e175
                          一 311252
      31
                          一 31134
3 3 3 3 3 3 3 3 3
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                         一
                             31134
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                          一 3115
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                                                         jzr-e13d
                                                                       亇
                          一
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                                                         jzr-e13e
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                          一
                                                         j́zr-e13d
                                                                       亇x2h
      31
                             312
                                                                                              竹条締幣
                                                         jzr-e13e
jzr-e13e
      31
                             312
                                                                       亇x3p
                         ⊬ 312
                                                                       亇x6p
      31
                         一 312
                                                                       介x8q
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                                                         jzr-e13e
                         ⊬ 3121
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      31
                         ⊬ 31211
[...]
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4
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                         → 4111251
                                                                       言
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                         → 4111251
                                                                       言x2h
                         <u></u> 4111251
4
  · 41
                                                                       膏x2v
   · 41
                         <u></u> 4111251
4
                                                                       言x4q
                         <u></u> 41121
4
   \ 41
                         <u></u> 412234
4
   · 41
                                                         jzr-ella
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                         <u>~</u> 4124
4
  · 41
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                         → 4125125251
                                                                       高广
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                         <u>~</u> 413
      41
[...]
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                                                                              jzr-e346
                                      jzr-e346
                                                                                            当
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                                      jzr-e346
                                                        5121
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                                      jzr-e350
                                                        51
                                                                              jzr-e350
                                                                                            邑
                                                                               jzr-e31e
                                                        5121121211
                                      izr-e350
                                                        51
                                51
                                      jzr-e1c2
                                                                               jzr-e1c2
                                      jzr-e1c2
jzr-e1c2
                                                        5122111
                                                                                            耳
5(12)
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                                                                              jzr-e21b
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5(12)
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                                      jzr-e341
                                                                              jzr-e341
                                      jzr-e341
jzr-e341
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                                                                                            ⇒x2v jzr-e26d 書
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                                      jzr-e341
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5(12)
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                                      jzr-e341
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                                      jzr-e341
                                                        511121
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                                                                              jzr-e186
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5(12)
                                                                                             手肀
                                51
                                      jzr-e341
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                                                        5112
                                                                              jzr-e114
                                51
                                                   \dot{\mp}
                                                        5112
                                      izr-e341
5(12)
5(12)
                                51
                                                                                            圭
                                      jzr-e341
                                                   <del>-</del>
                                                        51121
                                      jzr-e341
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                                                                                            兼隶
                                51
                                                    7
                                                        5112234
5(12)
                                      jzr-e341
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[...]
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                                      jzr-e1cb
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                                                   ·女女女女公公公公人)
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                                      jzr-e1cb
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                                      j̃zr-e1cb
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                                                                                            妥x2v
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                                    jzr-e27c
                                                                             jzr-e27c
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5 (47)
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                               53
                                     jzr-e27c
                                                      534
                                                                             jzr-e27a
                                                      5
5(47)
                               5
```

萬字一覽置換索引

5(8) # ideographic	= 5 space:	= 5	=
5(8)	_ 5	_ 5	_
5(8)	<u> </u>	<u> </u>	
5(8)	√ 5	√ 5	<i>Z</i>
5(8)	₹ 5	٤ 5	٤
5(8)	^ 5	^ 5	\sim
5(8)	ぜ 5	ජ 5	f d
5(8)	§ 5	§ 5	§
5(8)	5	5	

** Figural Themes **

```
(over 4,000 lines)
                                  鹗鹗另足定豆至是
足足克克免免
宫宫宫
打打计杜扛红杜任玒圱抂垤托牡
垂重熏
妅釷
灬灬
里重焦惫黒黑魚焄黒惥爲厘熏墨鳳嵐南贈褱寙
                                  江汪
侧侧抓抓
分扮扮松
村芡荣荣
荧壳荣
苯苯
苯苯
克包
晋晋普 審晉普晉 養著普普普晉普晉晉
丧毒
                                  丧啬嗇嗇
尚宣面直直
固商商商
宵宵害
痔疽
找宗辰更真赴望圇爾
找宗辰曵卖赴堅圇爾
人 晨
                                  製製
王王王壬壬
开开
与刁习与勺勾句
零零
```

(22,000 lines)

To keep u-cjk-xb/2011e 二 'archaic form of 下上' as distinct from u-cjk/4e8c = 'two', which has the exact same shape, may be justified by the 《康熙字典》, which emulates the 《説文解 字》 in this respect; however, doing so would be incompatible with our 'shapes-only' policy. I do not know what motivated the IRG to encode u-cjk-xb/201a2 个'(人-like, somewhat flattened shape that appears as top component)' as distinct from u-cjk/4eba 人 'man; human'; anyway, u-cjk-xb/201a2 个does not seem to appear in 《康熙》 and is likewise incompatible with the 'shapes-only' policy.

** Shape Identity Mappings (SIMs) ** u-cjk-xb/2011f _ 'archaic form of _ 'is in fact (if minimally) distinguishable from both u-cjk-xb/20120 = 'archaic from of ": "two" and u-cjk/4e8c \equiv 'two', so we keep these codepoints separate—except when writing out character formulas, where we always use u-cjk/4e8c

in an attempt to prevent becoming overly specific.

```
u-cjk/4eba 人 u-cjk-rad1/2f08 人
u-cjk/4eba 人 u-cjk-xb/201a2 へ
                     ___u-cjk-rad1/2f06 __
___u-cjk-xb/2011e __
___u-cjk-xb/2011f __!components
___u-cjk-xb/20120 __!components
u-cjk/4e8c
u-cjk/4e8c
u-cjk/4e8c
u-cjk/4e8c
```

The amount of duplication in Unicode is certainly surprising to the layman; some of this is due to Unicode's 'roundtrip encoding compatibility with legacy encodings', some is deliberate, and some is due to oversight.

As far as CJK Ideographs are concerned, the two biggest single sources for duplicate codepoints are Compatibility Codepoints and the (I believe misguided) attempt to treat well-known 'radicals' (字典部首) and some characters explicitly labeled as 'symbols' apart from the 'ideographs proper'. To do so, the Unicode Blocks u-cjk-rad1/2foo ... u-cjk-rad1/2fdf Kangxi Radicals, u-cjk-rad2/2e8o ... u-cjk-rad2/2eff CJK Radicals Supplement and u-cjk-sym/3000 ... u-cjk-sym/303f CJK Symbols and Punctuation have been set up; the latter contains, inter alia, u-cjk-sym/3007 ① 'zero' (to me undoubtely a 'character', just as 一, 二, 三, 萬 are characters, not symbols), duplicated as u-cjk-strk/31e3 ○ '(circular stroke, used for some ideographs created in Korea)'.

```
u-cjk-xb/2967f 食 u-cjk-rad2/2ede 食
u-cjk/98df 食 u-cjk-rad1/2fb7
u-cjk/98df
                                      u-cjk-rad2/2edd
u-cjk/98e0
                                       u-cjk-rad2/2edf
u-cjk/9963
                                       u-cjk-rad2/2ee0
u-cjk/98e0
                                       u-cjk-xb/2967f 食!components
                                       u-cjk-cmpi1/f90a 金
u-cjk-rad1/2fa6 金
u-cjk/91d1
u-cjk/91d1
                                       u-cjk/91d2 全!components
u-cjk-cmpi1/fa66 辶
u-cjk/91d1
u-cjk/8fb6
u-cjk/8fb6
                                       u-cjk-rad2/2ecc
u-cjk/8fb6
                                       u-cjk-rad2/2ecd
                                                                                            !components
                                                                                      泛!components
u-cjk/8fb6
                                       u-cjk-rad2/2ece
u-cjk/5ef4
                                       u-cjk-rad1/2f35
u-cjk-sym/3023 || jzr-fig/e177
                                        u-cjk-sym/3021 |
u-cjk/4e28
u-cjk/4e28
                                       u-cjk-rad1/2f01
u-cjk/4e28
                                        u-cjk-strk/31d1 |
u-cjk/4e85
                                       u-cjk-rad1/2f05
u-cjk/4e85
                                        u-cjk-strk/31da
u-cjk/4e28
                                       u-cjk/4e85 ∫!components/search
                                       u-cjk-rad1/2f07
u-cjk/4ea0
u-cjk/4ea0
                                       u-cjk-sym/3026 —
                                       u-cjk-rad1/2f17 +
u-cik/5341
u-cik/5341
                                       u-cik-sym/3038 +
                                      u-cjk-cmpi1/fa5d →
u-cjk/535d
u-cjk/535d | u-cjk-rad2/2ec0 | u-cjk-rad2/2ebf | u-cjk-cmpi1/fa5e | u-cjk-rad2/2ec0 | u-cjk-ra
u-cjk/5344
                                # u-cjk/8279 #
u-cjk/5344
                                      u-cjk-rad2/2ebe ***
u-cjk/5344 # u-cjk-sym/3039 #
u-cjk-xb/25ad7 * u-cjk-rad2/2eae **
u-cjk-xb/2099d 卓 u-cjk/9fba
                                          並 jzr/e14f №

jzr/e182 №
u-cjk-xd/2b740
u-cik-xc/2b1e6
                                      u-cjk-cmpi1/fa6b
u-cjk/6075 恵
u-cjk/8218
                                       u-cjk-cmpi1/fa6d
                                      u-cjk-cmpi1/f904
u-cjk/6ed1
                                      u-cjk-cmpi1/f909
u-cjk-cmpi1/f90d
u-cjk/5951
u-cik/61f6
                               懶
                                       u-cjk-cmpi1/f90e
u-cjk/7669
u-cjk/908f
                                       u-cjk-cmpi1/f913
                               邏
u-cjk/4e82 亂 u-cjk-cmpi1/f91b
u-cjk/6feb 濫 u-cjk-cmpi1/f922
```

```
u-cjk-xb/206a4
u-cjk-xb/208de 甸 u-cjk-cmpi2/2f9dd 甸
               u-cjk-xb/2103c 吲
u-cjk-xb/21018
u-cik-xb/21d0b
               u-cjk-cmpi2/2f8f8
u-cjk-xb/21f37
               u-cjk-xb/22331
               u-cjk-cmpi2/2f891
u-cjk-xb/232ad
               u-cjk-cmpi2/2f906
u-cjk-xb/23f9e 深
u-cjk-xb/23d1e
u-cjk-xb/23f41
               u-cjk-cmpi2/2f910
u-cjk-xb/23f5e
u-cjk-xb/243ab
               u-cjk-cmpi2/2f91f
               u-cjk-xb/2444b
u-cjk-xb/249e9
u-cjk-xb/24425
u-cjk-xb/249bc
             事
               u-cjk-cmpi2/2f935
u-cjk-xb/24c36
u-cjk-xb/24d14
             īĚ
               u-cjk-rad2/2eaa ∄
u-cjk-xb/24fb8
               u-cjk-cmpi2/2f93c 蘤
             騗
u-cjk/9091 邑 u-cjk-rad1/2fa2
u-cjk/9149 酉 u-cjk-rad1/2fa3
cdp/88c8 &cdp#x88c8;
cdp/85fd &cdp#x85fd;
jzr/elf0 甘
jzr/elf1 亞
          cdp/8569 &cdp#x8569;
jzr/elf8 廟
u-cjk/5e80 庀 c2/215a &c2#x215a;
u-cjk/68b5 梵 c1/5b31 &c1#x5b31;
u-cjk/904b 運 c1/672a &c1#x672a;
            c1/5b31 &c1#x5b31;
u-cjk/9db3 鰤 c2/6d34 &c2#x6d34;
u-cjk/5e97 店 c1/4d33 &c1#x4d33;
u-cjk/9d19
         鴩 c2/5c39 &c2#x5c39
u-cjk/6b63 正 c1/465f &c1#x465f;
u-cjk/9117
         鄗 c1/673a &c1#x673a;
u-cjk/7380 玀 c1/7b66 &c1#x7b66;
```

Yadda yada yada

Yadda yada yada

Yadda yada y

Yadda yada y

Yadda yada y

yadda yadda.

Yadda yada ya

萬字一覽置換索引

Yadda yada y

Yadda yada y