



## my FLOSS contribution activities in Korean and CJK areas

- ▼ LibreOffice Korean Team( 리브레오피스 한국어 모임 )
- ▼ 성대현 (DaeHyun Sung, 成大鉉 , ソン・デヒョン )
- ▼ Saturday, July 15 , 2023

2023 年 07 月 15 日 土曜日 2023 年 07 月 15 日 토요일

# Hi, there

- ▼ Hello
- ▼ 안녕하세요
- ▼ こんにちは
- ▼ 你好
- ▼ xin chào

# Who am I?

## ▼ DaeHyun Sung

성대현 , 成大鉉 , ソン・デヒョン

- ▼ One of Korean Open Source Contributors
- ▼ GNOME Foundation Member
- ▼ Founder member of LibreOffice Korean Team(2017-)
- ▼ Member of The Document Foundation (2019-)
- ▼ Activities: Korean Community management & QA, improve some Korean features on LibreOffice



# Who am I?

- ▶ Free/Libre Open Source Enthusiast in Korea
- ▶ Father of a child & husband of a family
- ▶ Now, I joined Korea startup company “Lablup”, DevOps Engineer since 2022



# Where am I from?

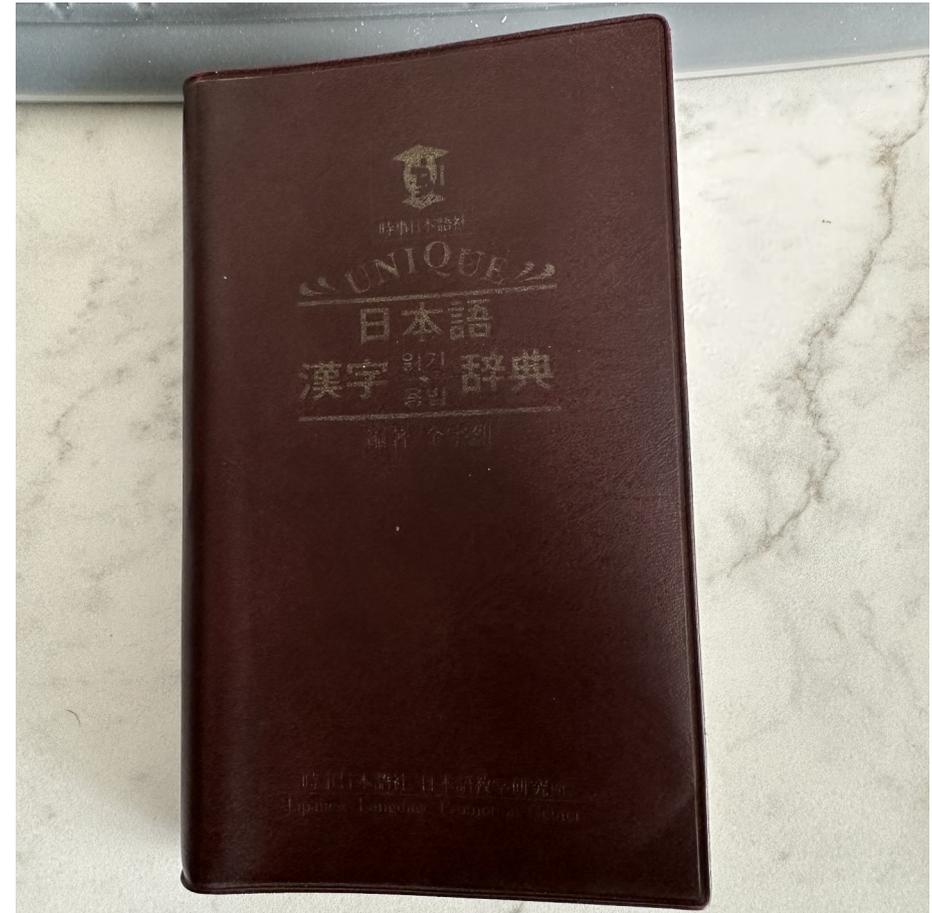


# My Childhood - CJKV

- ▼ My father's Japanese-Korean Dictionaries
- ▼ Japanese Video Games
- ▼ My Japanese & Chinese novels and culture books
- ▼ Taiwan's drama, "Justice Bao"
  - ▼ Mandarin Chinese: 包青天 bāo qīng tiān
  - ▼ Korean: 포청천 包青天 po cheong cheon

# My Childhood: Japanese-Korean Dictionary

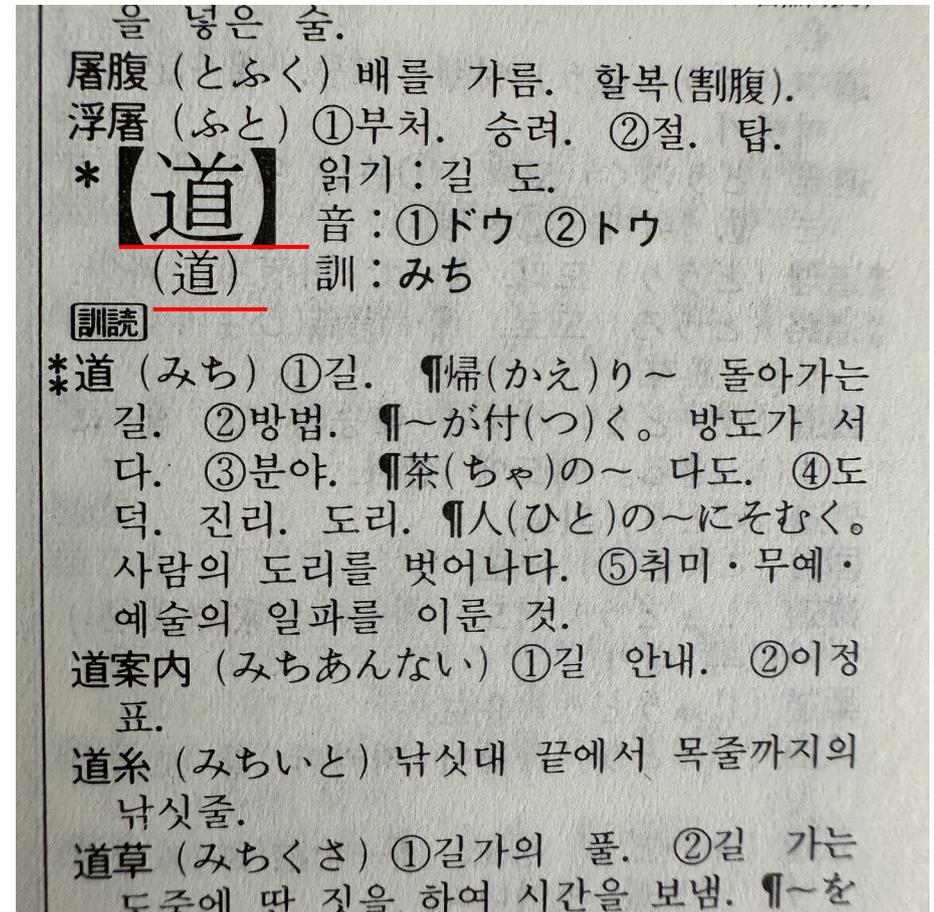
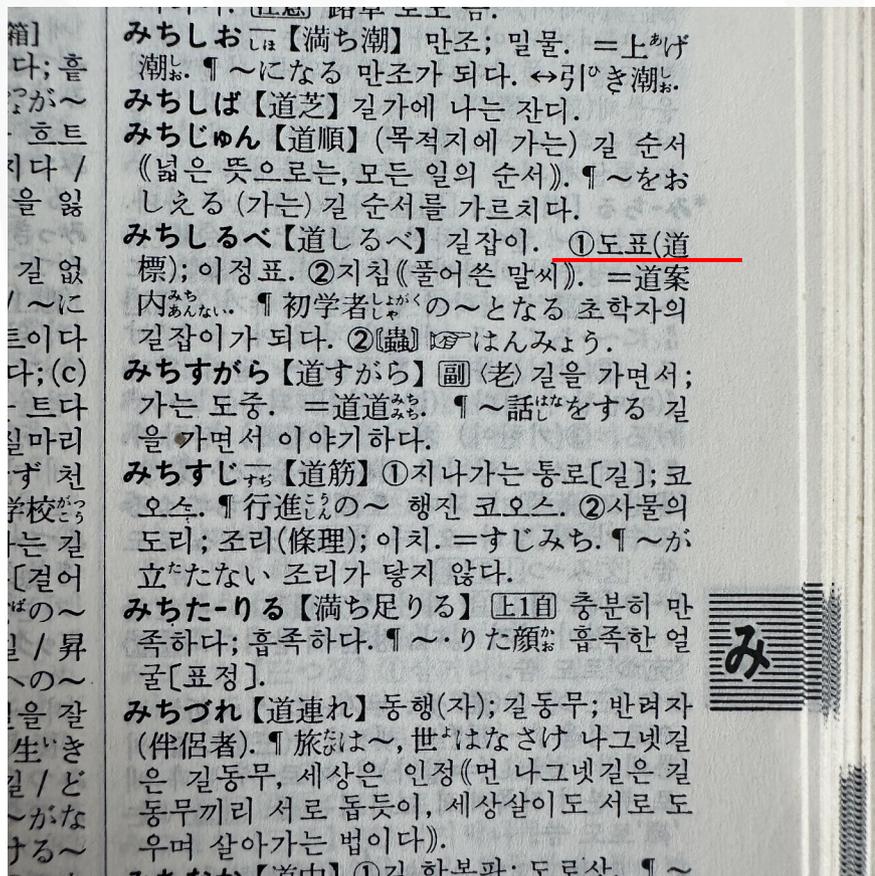
## ▼ My father's Japanese-Korean Dictionary



# My Childhood: Japanese-Korean Dictionary

## ▼ Different glyphs in both Japanese & Korean

### ▼ 道 ( Noto Sans CJK KR) & 道 (Noto Sans CJK JP)



# Difference of Ideograph forms

- ▼ Variant Ideographs in CJK
  - ▼ Variant forms, same code points
    - ▼ 道 , path, road, street; method, way

	<b>Traditional Chinese</b>	<b>Simplified Chinese</b>	<b>Japanese</b>	<b>Korean</b>
<b>Glyph</b>	道	道	道	道
<b>Reading</b>	ㄉㄠˋ dào	dào	訓読み：みち (michi)、いう (iu) 音読み：ドウ (dou)、トウ (tou)	도 do
<b>Code point</b>	道 (U+9053)	道 (U+9053)	道 (U+9053)	道 (U+9053)

# Example of 道

- Seoul Seonggyun-gwan Academy  
서울 성균관 (成均館)  
ソウル ソンギュングァン



- Kyoto Kiyomizu-dera Temple  
京都 清水寺  
교토 기요미즈데라 (청수사 / 清水寺)



# Masayoshi Son's square law philosophy

## ▼ 孫の二乗の兵法



## ▼ 손의 제곱 병법

손정의의 제곱 병법

道	天	地	將	法
頂	情	略	七	鬪
一	流	攻	守	群
智	信	仁	勇	嚴
風	林	火	山	海

- 이념 싸움에 이기기 위한 조건
- 비전 리더가 갖추어야 할 지혜
- 전략 1인자가 되려는 이의 싸우는 방법
- 장수의 수칙 리더의 마음가짐
- 전술 전투 방법

소프트뱅크아카데미아で「孫の二乗の兵法」を学んできた

[https://www.itmedia.co.jp/makoto/articles/1007/29/news020\\_2.html](https://www.itmedia.co.jp/makoto/articles/1007/29/news020_2.html)

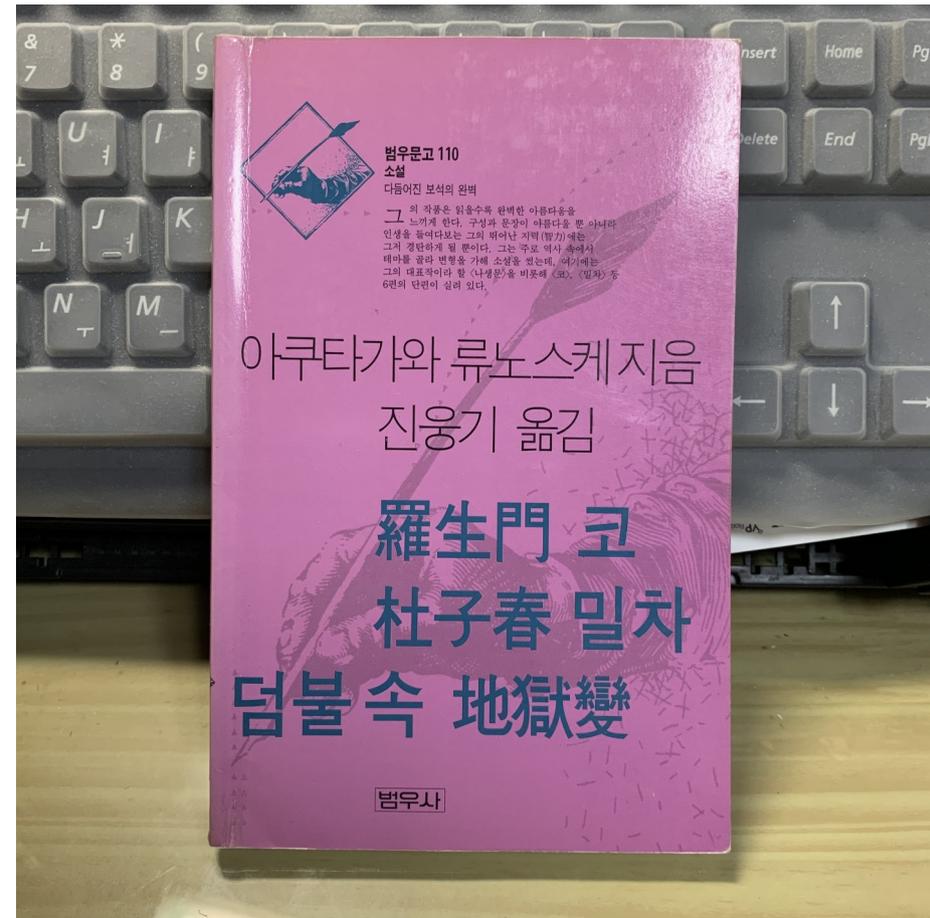
# My Childhood

- ▶ Japanese Video game - Koei( 光荣 )'s Romance of the Three Kingdoms( 三國志 , Sangokushi)
  - ▶ Different code point
    - ▶ Korean & Traditional Chinese: 榮 (U+69AE)
    - ▶ Japanese: 榮 (U+6804)
    - ▶ Simplified Chinese: 荣 (U+8363)



# My Japanese novels and culture books

- ▼ My Japanese novels, translated Korean Version
  - ▼ Japanese: 羅生門 rashōmon
  - ▼ Korean:
    - ▼ 나생문 nasaengmun
    - ▼ 라쇼몬 rasyomon



# My Chinese novels and culture books

- ▼ My Chinese novels and culture books, translated Korean Version
  - ▼ Novel's author
    - ▼ Chinese: 朱自清 zhū zìqīng
    - ▼ Korean: 주자청 (朱自清 Ju Ja Cheong)
    - ▼ Japanese: 朱自清 しゅ・じせい
  - ▼ Novel's title
    - ▼ Chinese: 背影 bèiyǐng
    - ▼ Korean: 아버지의 뒷모습 (Original Name: 배영 背影 Bae yeong)
    - ▼ Japanese: 後ろ姿 (Original Name: 背影)



# My Childhood

- ▼ Taiwan's Drama series: Justice Bao ( 包青天 )
  - ▼ Mandarin Chinese: 包青天 bāo qīng tiān
  - ▼ Korean: 포청천 包青天 po cheong cheon
    - ▼ KBS(Korean Broadcasting System/ 한국방송공사 / 韓國放送公社 )  
opening version <https://www.youtube.com/watch?v=lfUyEASTESk>
  - ▼ Different Code point
    - ▼ Chinese, Japanese: 青 (U+9752)
    - ▼ Korean: 靑 (U+9751)

## Hanja/Ideographs/ 한자 / 漢字

- ▼ Hanja( 한자 / 漢字 ) is the Korean Name for Chinese Characters/Ideographs( 漢字 / 汉字 )

# Hanja/ 漢字

- ▼ Chinese Character
  - ▼ Chinese: hàn zì ㄏㄢˋ ㄗㄜˋ
  - ▼ Traditional Chinese: 漢字
  - ▼ Simplified Chinese: 汉字
- ▼ Japanese: かんじ kanji
- ▼ Korean: 한자 hanja
- ▼ Vietnamese: Hán tự

# Hanja/Ideographs/ 한자 / 漢字

- ▼ Commonly called “Chinese Characters” or “Ideographs” in English.
  - ▼ Widely uses in East Asian countries and regions such as Mainland China, Taiwan, Hong Kong, Macao, Korea, Japan, Vietnamese, etc.
- ▼ One character has one mean and one sound.
  - ▼ Exceptions
    - ▼ Some characters have multiple definitions.
    - ▼ Some characters have multiple sounds.
    - ▼ Some characters have both multiple definitions and multiple sounds.

# Hanja/Ideographs/ 한자 / 漢字

## ▼ Exceptions

- ▼ Some character glyph are variants.
- ▼ Some character Meaning vary in regions.

### ▼ 嵐

- ▼ Korean: haze, heat shimmer
- ▼ Chinese: mist
- ▼ Japanese: storm

# Hanja/Ideographs/ 한자 / 漢字

- ▼ Korean: 강희자체 ( 康熙字典體 ) / 정자체 ( 正字體 )
- ▼ Japan
  - ▼ 旧字体 / 舊字體 (Kyūjitai, literally "old character forms")
  - ▼ 新字体 (Shinjitai, literally "new character forms")
- ▼ Chinese
  - ▼ 正體字 or 繁體字 (Traditional Chinese)
  - ▼ 简体字 (Simplified Chinese)

# Difference of Ideograph forms

- ▼ Variant Ideographs in CJK
  - ▼ Variant forms & different code points
    - ▼ Rooster

	<b>Traditional Chinese</b>	<b>Simplified Chinese</b>	<b>Japanese</b>	<b>Korean</b>
<b>Glyph</b>	雞	鸡	鶏	鷄
<b>Reading</b>	ㄐㄧ jī	jī	にわとり niwatori	계 gye
<b>Code point</b>	雞 (U+96DE)	鸡 (U+9E21)	鶏 (U+9D8F)	鷄 (U+9DC4)

# Difference of Ideograph forms

- ▼ Variant Ideographs in CJK
  - ▼ Variant forms & different code points
    - ▼ Translation

	<b>Traditional Chinese</b>	<b>Simplified Chinese</b>	<b>Japanese</b>	<b>Korean</b>
<b>Glyph</b>	翻譯	翻译	翻訳	翻譯
<b>Reading</b>	fānyì ㄈㄢˋ ㄩˋ 一 一`	fānyì	ほんやく honyaku	번역 Beon Yeok
<b>Code point</b>	翻 (U+7FFB) 譯 (U+8B6F)	翻 (U+7FFB) 译 (U+8BD1)	翻 (U+7FFB) 訳 (U+8A33)	翻譯 (U+98DC) 譯 (U+8B6F)

# Example of CJK font issue?



- ▼ Many of Korean fonts do not have certain Ideographs
  - ▼ Simplified Chinese
    - ▼ 铁 (Korean: 鐵 철 cheol)
    - ▼ 时 (Korean: 時 시 si)
    - ▼ 须 (Korean: 須 수 su)
    - ▼ 罩 (Korean: 조 jo, rarely used in Korean)
  - ▼ Japanese
    - ▼ 鐵 (Korean: 鐵 철 cheol)

## East Asian Cultural Hemisphere & CJKV

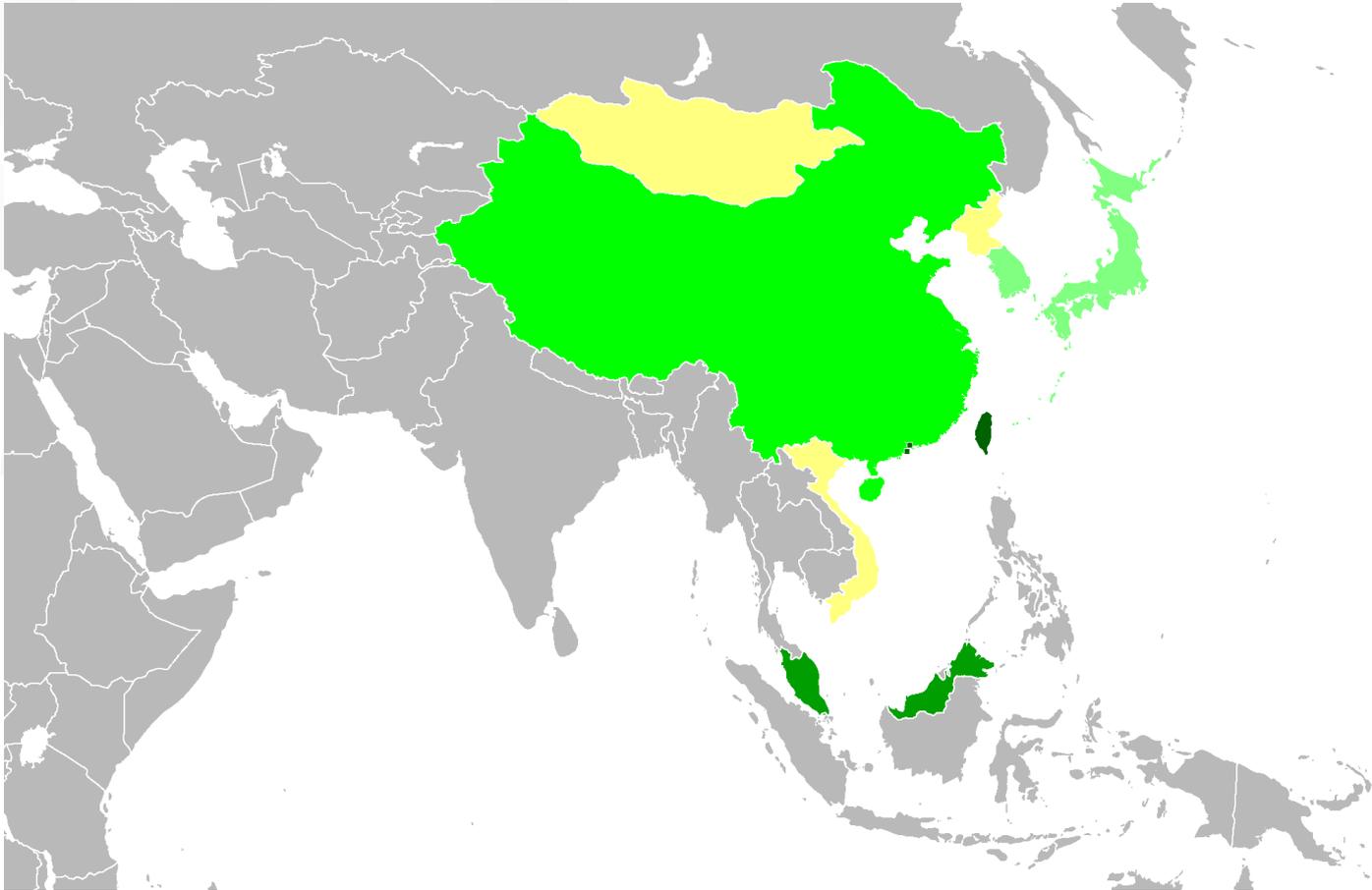
- ▼ Ideographs or “Chinese Character 漢字”
- ▼ CJKV[Chinese, Japanese, Korean Vietnamese]

# CJKV

- ▶ CJKV is an abbreviation for Chinese, Japanese, Korean, and Vietnamese.
- ▶ Mainland China, Taiwan, Hong Kong, Japan, Korea, Vietnam were/are used Chinese Characters
- ▶ LibreOffice has many language-specific features and issues, CJKV issue is one of them.

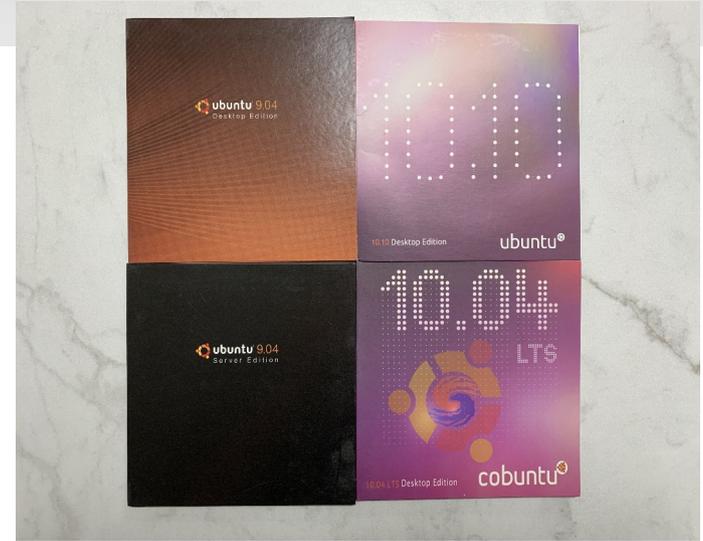
## ▼ Regions where Chinese characters were/are used

▼ [https://commons.wikimedia.org/wiki/File:Map-Chinese\\_Characters.png](https://commons.wikimedia.org/wiki/File:Map-Chinese_Characters.png)

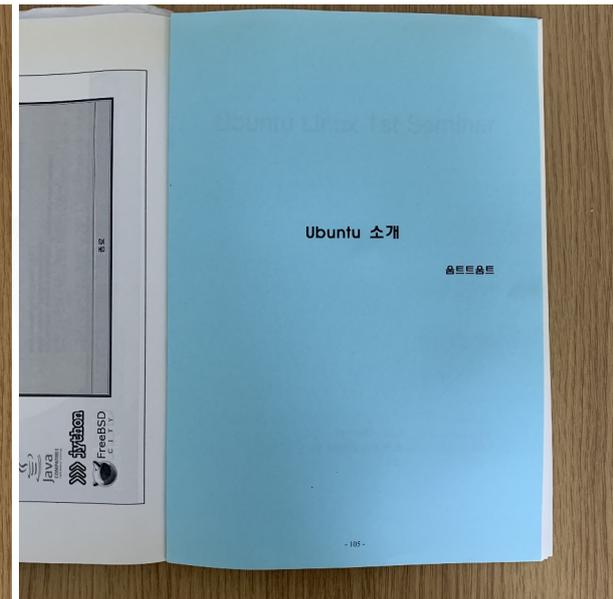
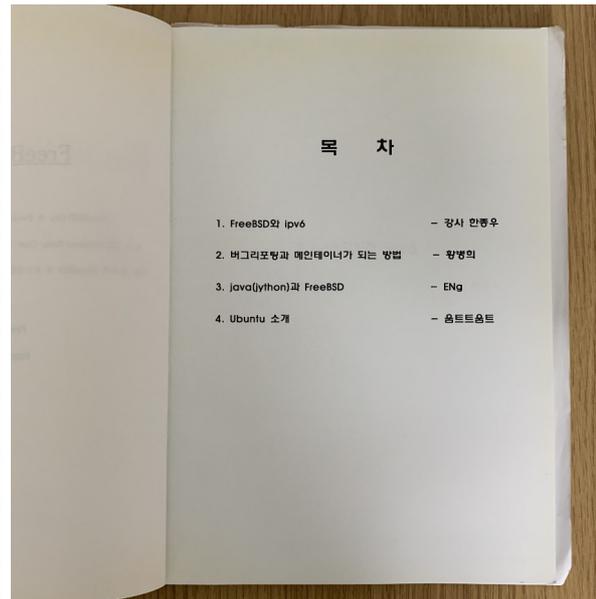
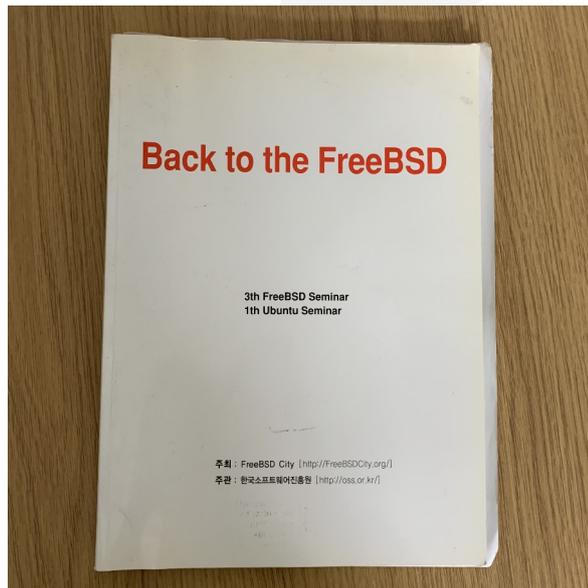


# As a Linux Newbie

## ▼ Ubuntu CDs



## ▼ First Korea Ubuntu User Group Seminar book



# As a Linux Newbie

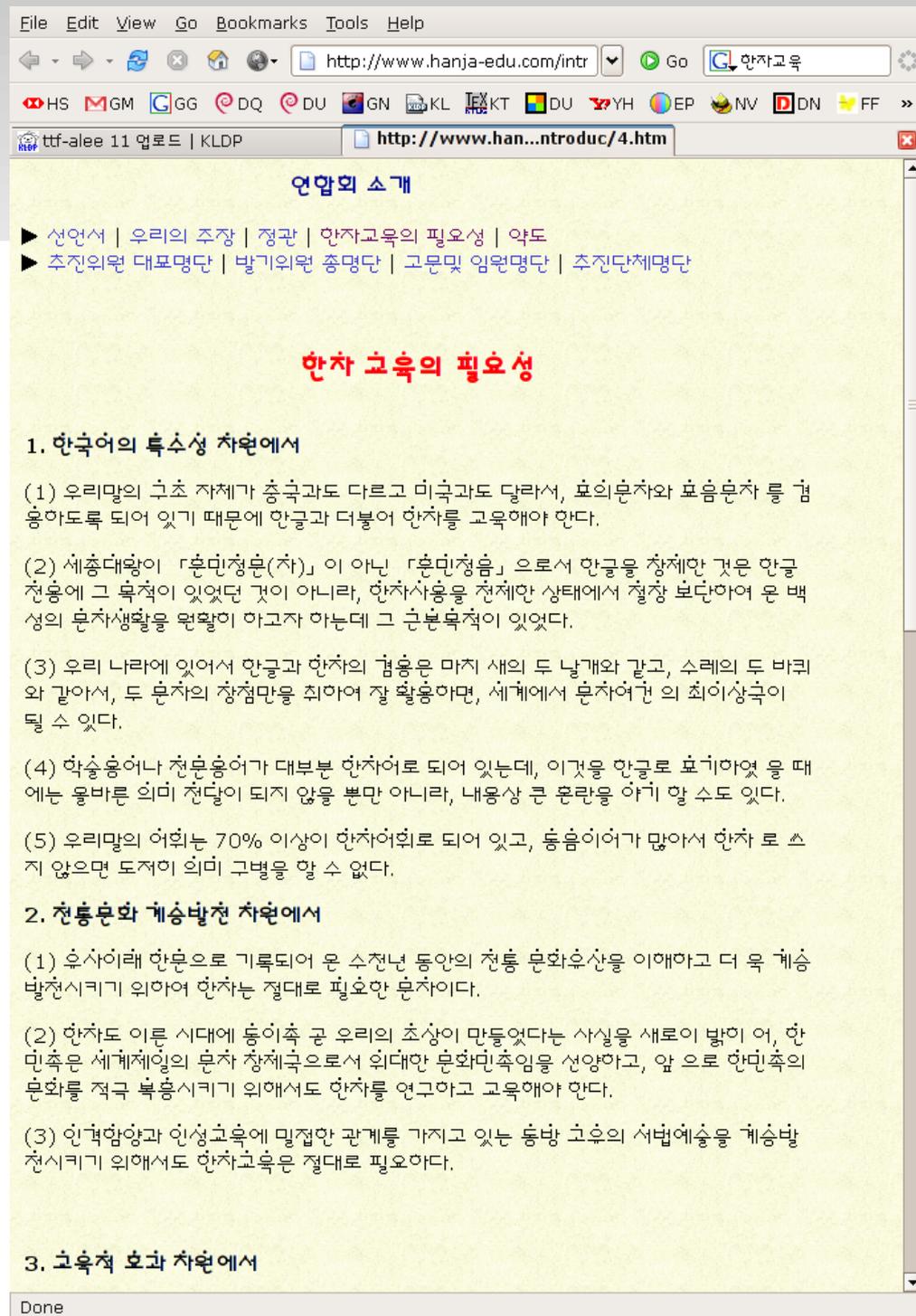
- ▼ Since 2004, I use Linux as a Desktop
  - ▼ When I first started Linux, they looked up Korean Linux Document on the KLDP( 한국어 리눅스 문서화 프로젝트 , Korean Linux Documentation Project) site
    - ▼ (Currently, It is rarely used by Korean Linux Users)
    - ▼ Site: <https://kldp.org/>
  - ▼ 16 years ago, I found the Korean threads on KLDP
    - ▼ ttf-alee 11 업로드 (upload) <https://kldp.org/node/74311>
    - ▼ " 구슬체 " 에서 한자대신 한글이 출력되는 문제 (The problem: Hangeul is printed form "Guseul" font instead of Hanja"  
<https://kldp.org/node/89240>

# As a Linux Newbie

- ▼ Some Korean thread's some problems on KLDP
  - ▼ Some FLOSS Korean developers ignore Hanja( 한자 / 漢字 , Chinese characters) issues
  - ▼ One FLOSS Korean developer made the Hanja problem on font(“Guseol” font)
  - ▼ The Korean font developer insists, “Hanja is not Korean Language” and change hanja to Korean hanja sound
    - ▼ ex) 漢字 → 한자

# As a Linux Newbie

- ▶ “Guseul” font’s Hanja issue on KLDP ( 16 years ago)
  - ▶ Strongly Problematic
    - ▶ Ideographs and Korean Hanja sound cannot be mapped 1:1
      - ▶ ex) 樂 – 4 Sounds
        - ▶ 악 ak 낙 nak 락 rak 요 yo
  - ▶ There is a problem that characters cannot be properly expressed When Chinese & Japanese strings appear



# Ubuntu's SNS Gwibber

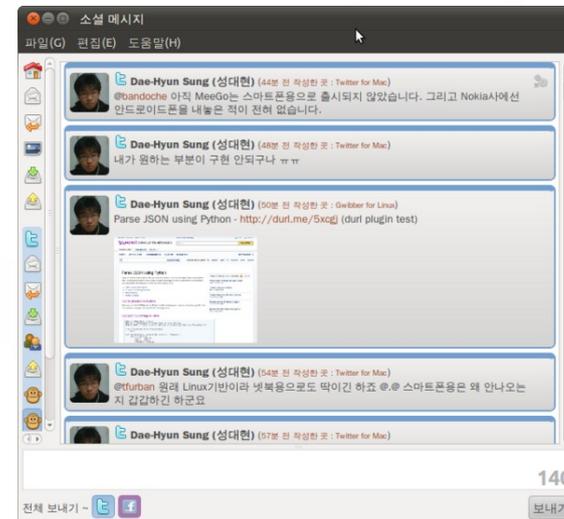
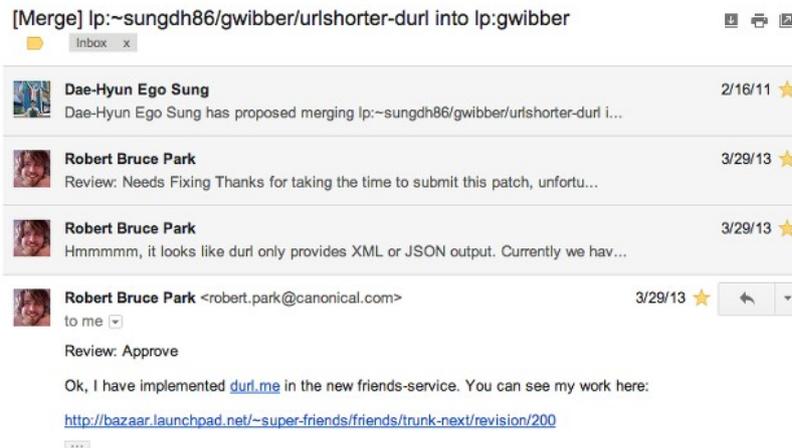
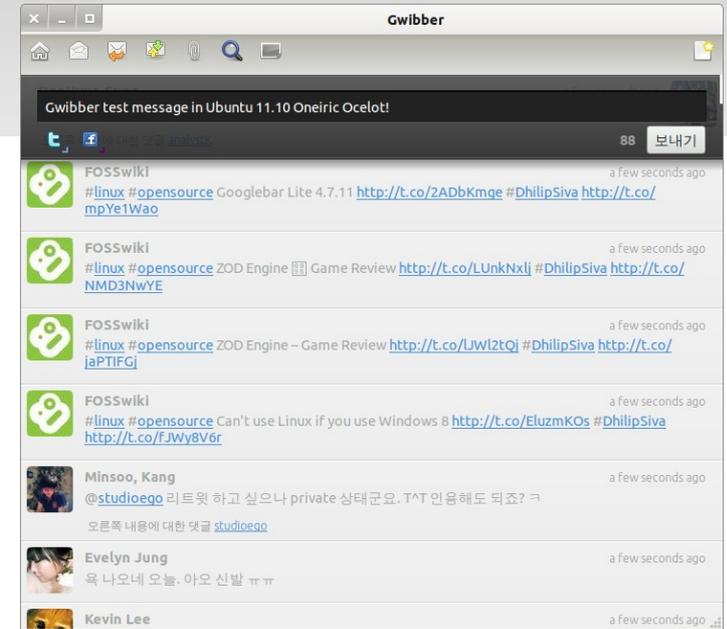
## ▼ Gwibber

▼ Microblogging client for the GNOME

▼ Python using PyGTK

▼ My first contribution

▼ <https://code.launchpad.net/~sungdh86/gwibber/urlshorter-durl>



# Interesting Unicode Unihan database

- ▼ Unihan Database

- ▼ It organizes information relating to the properties of CJKV Unified Ideographs

- ▼ <https://www.unicode.org/reports/tr38/>

- ▼ <https://unicode.org/charts/unihan.html>

# Interesting Unicode Unihan database

- ▼ Explain Deal with East Asia characters in Korean Perl Workshop 2012
  - ▼ 동아시아 문자 처리 (2012-10-20)
    - ▼ Slide: <https://www.slideshare.net/studioego/ss-14808971>
    - ▼ Ref. Book: CJKV Information Processing (Ken Lunde)



# GNOME Asia 2013 Seoul

- ▼ Met Many of Asian countries FLOSS developers and Contributors, users
  - ▼ Met Hong Kong's, OSHK president Sammy Fung
    - ▼ I've got CJK insight from his working
      - ▼ IBus Chinese input methods for HongKongers - Problem, Solution, Future. <https://www.slideshare.net/sammyfung/gnome-ibus>
      - ▼ COSCUP 2013 <https://www.slideshare.net/sammyfung/coscup-2013>



# KDE 20<sup>th</sup> Birthday party in 2016

- ▼ 2016.10.14. KDE 한국 20주년 파티 KDE's 20th Birthday in Seoul, Korea [https://www.youtube.com/watch?v=8\\_luvlQV2VQ](https://www.youtube.com/watch?v=8_luvlQV2VQ)
- ▼ KDE e.V. Eike hein's article  
Improving KDE's support for Korean (and other CJK languages)  
<https://blogs.kde.org/2015/01/17/improving-kdes-support-korean-and-other-cjk-languages>
- ▼ KDE aKademy 2017: Eike Hein - Input Methods in Plasma 5  
<https://www.youtube.com/watch?v=wE0KDabPfsQ>



# GNOME gucharmap

## ▶ GNOME gucharmap

<https://wiki.gnome.org/Apps/Gucharmap>

▶ Add Korean Hangul sound and Vietnamese pronunciation for Ideographs

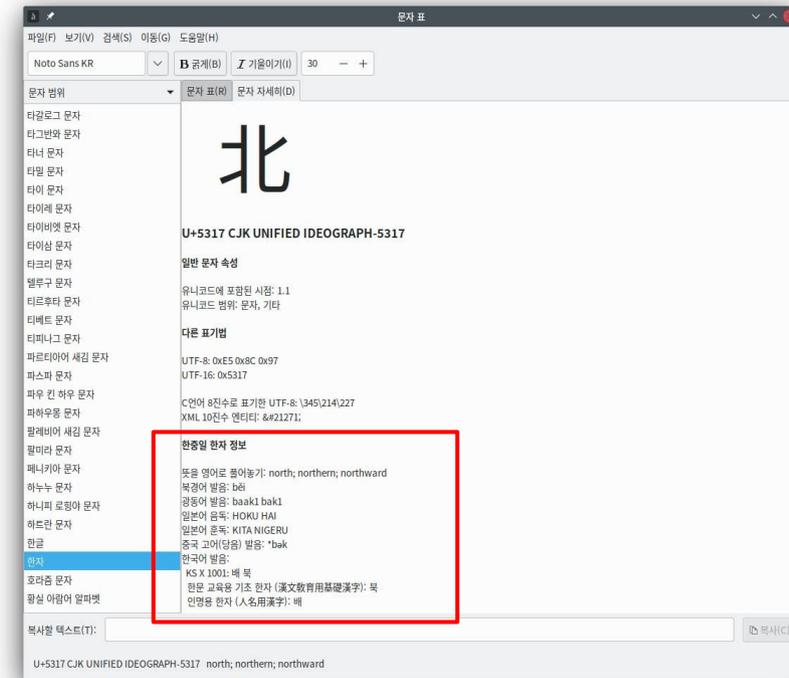
▶ Example) one —

▶ charmap: Add korean hangul and vietnamese pronunciations (2016)

<https://gitlab.gnome.org/GNOME/gucharmap/commit/b3614d114bc2158f8e5c4b98797019f3a71d0ba7>

▶ chartable: Improve Korean Hanja Pronunciations property(2021)

<https://gitlab.gnome.org/GNOME/gucharmap/-/commit/0d40a44c7fc242ffcf48b4d668223cc954a8b4cc>



# GNOME gucharmap

## ▼ GNOME gucharmap

- ▼ Decomposition Korean Hangul Syllable & click to move Hangul jamo

- ▼ charmap: Show characters in the canonical decomposition (2017)

<https://gitlab.gnome.org/GNOME/gucharmap/-/commit/65c3083fc4f7045d5cb9269a84d7ace4d90ab65c>



# GNOME characters

## ▼ GNOME characters

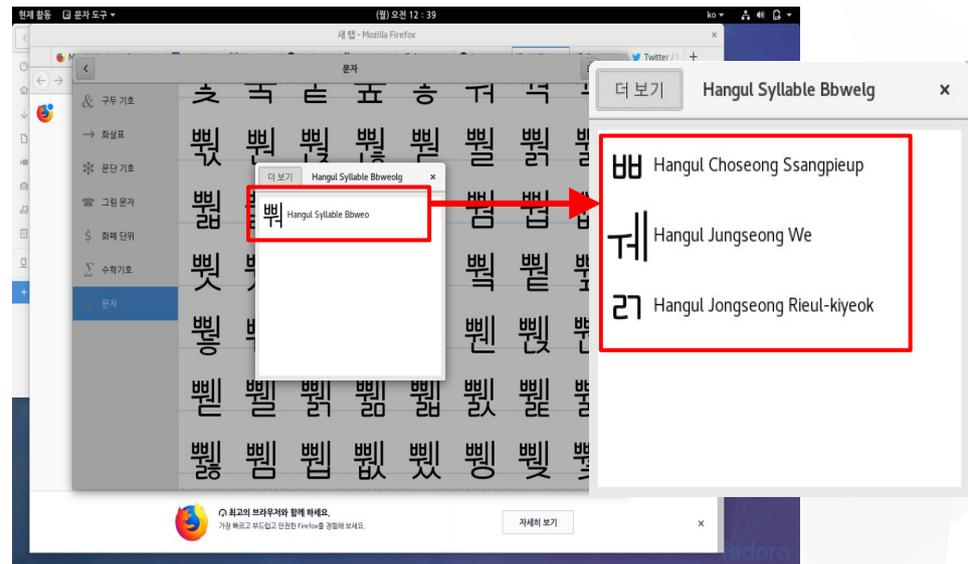
▼ <https://gitlab.gnome.org/GNOME/gnome-characters>

▼ libgc: Perform full canonical decomposition for Hangul syllables (2017)

<https://gitlab.gnome.org/GNOME/gnome-characters/-/commit/70e5e05a8f8cbf24a122680dbc943e90ec8fd4f9>

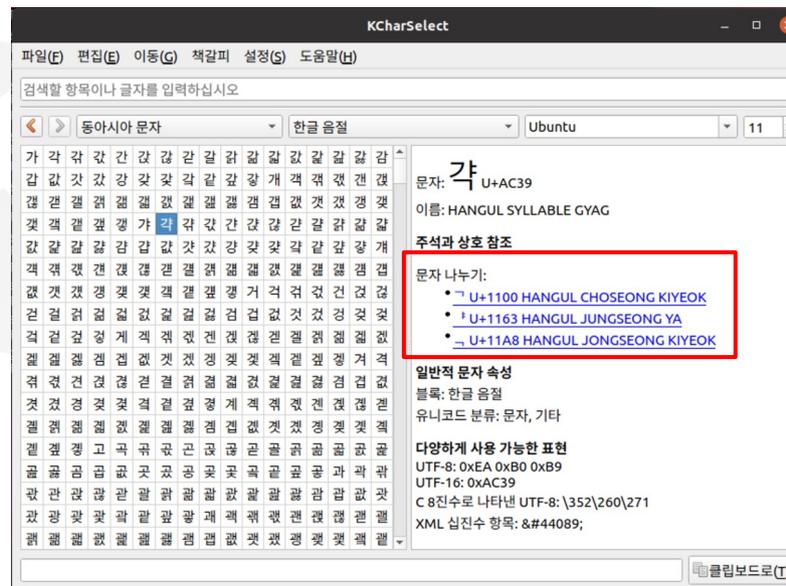
▼ gc: add support cjk extension H for Unicode15(2023)

<https://gitlab.gnome.org/GNOME/gnome-characters/-/commit/daef901e34d731d6d8fe8a1f966ea9f1f04e3a2f>



# KDE kcharselect

- ▶ KDE kcharselect - Add decomposition of Hangul Syllables into Hangul Jamo
- ▶ <https://invent.kde.org/frameworks/kwidgetsaddons/-/commit/d5afd98cb6f6be743d6fdf75770aef13a5c6194b8>



# Contribute Korean IME, libhangul

- ▼ Libhangul – FLOSS Korean IME library
  - ▼ add 158 characters in the list of hanja[ 한자 , 漢字 ]
    - ▼ <https://github.com/libhangul/libhangul/pull/19/files>

Changes from all commits ▾ Jump to... ▾ +158 -0

158 data/hanja/hanja.txt	
幸	@@ -176,6 +176,7 @@
176 176	가:答:
177 177	가:啊:
178 178	가:啊:
179	+가:假:
179 180	가가:假家:
180 181	가가:可呵:
181 182	가가:可嘉:
幸	@@ -2700,6 +2701,7 @@
2700 2701	간:幹:
2701 2702	간:鶉:
2702 2703	간:軒:
2704	+간:研:
2703 2705	간가:間架:
2704 2706	간가결구:間架結構:
2705 2707	간가세:間架稅:
幸	@@ -4891,6 +4893,8 @@
4891 4893	강:疆:
4892 4894	강:疆:
4893 4895	강:航:
4896	+강:降:
4897	+강:控:
4894 4898	강가:降嫁:
4895 4899	강가:江加:
4896 4900	강간:強姦:
幸	@@ -8276,6 +8280,7 @@
8276 8280	건:蹇:
8277 8281	건:健:
8278 8282	건:健:
8283	+건:連:

...	...	@@ -301121,6 +301276,7 @@
301121	301276	궤:嫁:
301122	301277	궤:礪:
301123	301278	궤:諛:
301279	+궤:弁:	
301124	301280	궤가출동:毀家黜洞:
301125	301281	궤가출송:毀家黜送:
301126	301282	궤괴:毀壞:
...	...	@@ -301192,6 +301348,7 @@
301192	301348	휘:栻:
301193	301349	휘:揮:
301194	301350	휘:獬:
301351	+휘:煒:	
301195	301352	휘각:揮却:
301196	301353	휘갈:揮喝:
301197	301354	휘간:揮巾:
...	...	@@ -302944,6 +303101,8 @@
302944	303101	희:誦:
302945	303102	희:覘:
302946	303103	희:駢:
303104	+희:譎:	
303105	+희:姬:	
302947	303106	희가극:喜歌劇:
302948	303107	희가스:稀가스:
302949	303108	희각분:喜覺分:

# COSCU2017

- ▼ I met TDF members such as Italo Vignoli, Franklin weng, Cheng-Chia Tseng, Jeff Huang on COSCU2017 in Taipei, Taiwan
- ▼ COSCU2017(Conference for Open Source Coders, Users and Promoters) is an annual conference held by Taiwanese Open Source Communities.
- ▼ I attended to Italo Vignoli's presentation on COSCU2017 in Taipei, Taiwan
- ▼ Moreover, I met LibreOffice Japanese Members on COSCU2017

# COSCUP 2017



# Variant Ideographs

- ▼ Chinese and Japanese don't reserved multi-sounds code points, only one code point.
- ▼ Example] Taiwan's COSCUP 2017 talk “ ㄇㄨㄛˊ, 都 2017 了注音還沒搞定嗎? ” by 董福興 (Bobby Tung)
  - ▼ <https://www.youtube.com/watch?v=4eOFAwy8f7Q>



# Variant Ideographs

- ▼ KS X 1001:1992 includes 268 duplicate hanja (with multiplereadings)—encoded in “CJK Compatibility Zone”
- ▼ Example1] 樂 (악 ak, 낙 nak, 락 rak, 요 yo)

Glyph	Korean Hanja Sound 한국 한자음 / 韓國 漢字音	KS X 1001:1992	Unicode
樂	악 ak	68-37	U+6A02
樂	낙 nak	49-66	U+F914
樂	락 rak	53-05	U+F95C
樂	요 yo	72-89	U+F9BF

# Variant Ideographs

## ▼ 自由香港字型 - 香港人造香港字

▼ Homepage: <https://freehkfonts.opensource.hk>

▼ HongKonger made Hong Kong's Ideographs

▼ One of Open Source Hong Kong <https://opensource.hk/> Project

▼ Hong Kong Government released Hong Kong Supplementary Character Set (HKSCS), It defined Ideograph's glyph in Hong Kong

[https://www.ogcio.gov.hk/en/our\\_work/business/tech\\_promotion/ccli/hkscs/](https://www.ogcio.gov.hk/en/our_work/business/tech_promotion/ccli/hkscs/)

▼ 梁敬文，和他發起的「香港人造香港字」運動

<https://theinitium.com/article/20160410-changemaker-font/>

# Variant Ideographs

## Example of Free Hong Kong Fonts

自由香港楷書示範

有關自由香港字型

自由香港楷書

歡迎試打自由香港楷書

常見例子：告 房 電 滋 妙

系統預設顯示字體

歡迎試打自由香港楷書

常見例子：告 房 電 滋 妙

鳴謝 Credit:

字型團隊：自由香港字型

雲端寄存：UDomain Web Hosting

技術支援：Open Source Hong Kong

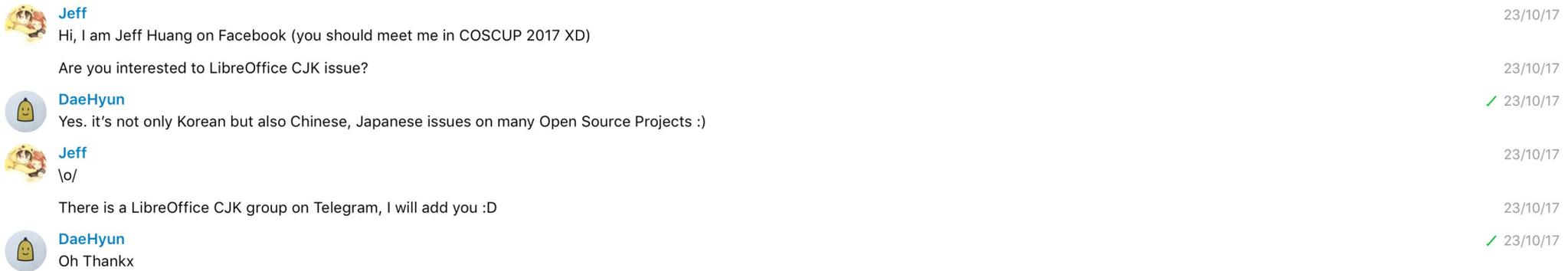
原始碼：本網站原始碼 [Source Code](#) (License: General Public License 3.0)

自由香港楷書示範

<https://kaidemo.opensource.hk/>

# COSCUP 2017

- ▼ After COSCUP 2017
- ▼ I joined LibreOffice CJK telegram by Jeff Huang, One of TDF Taiwan Member
- ▼ LibreOffice CJK Telegram:  
<https://t.me/joinchat/CVgtjEKzbQoitBP9aR4aIQ>
- ▼ As a result, I participated in LibreOffice







# KDE aKademy 2018 keynote

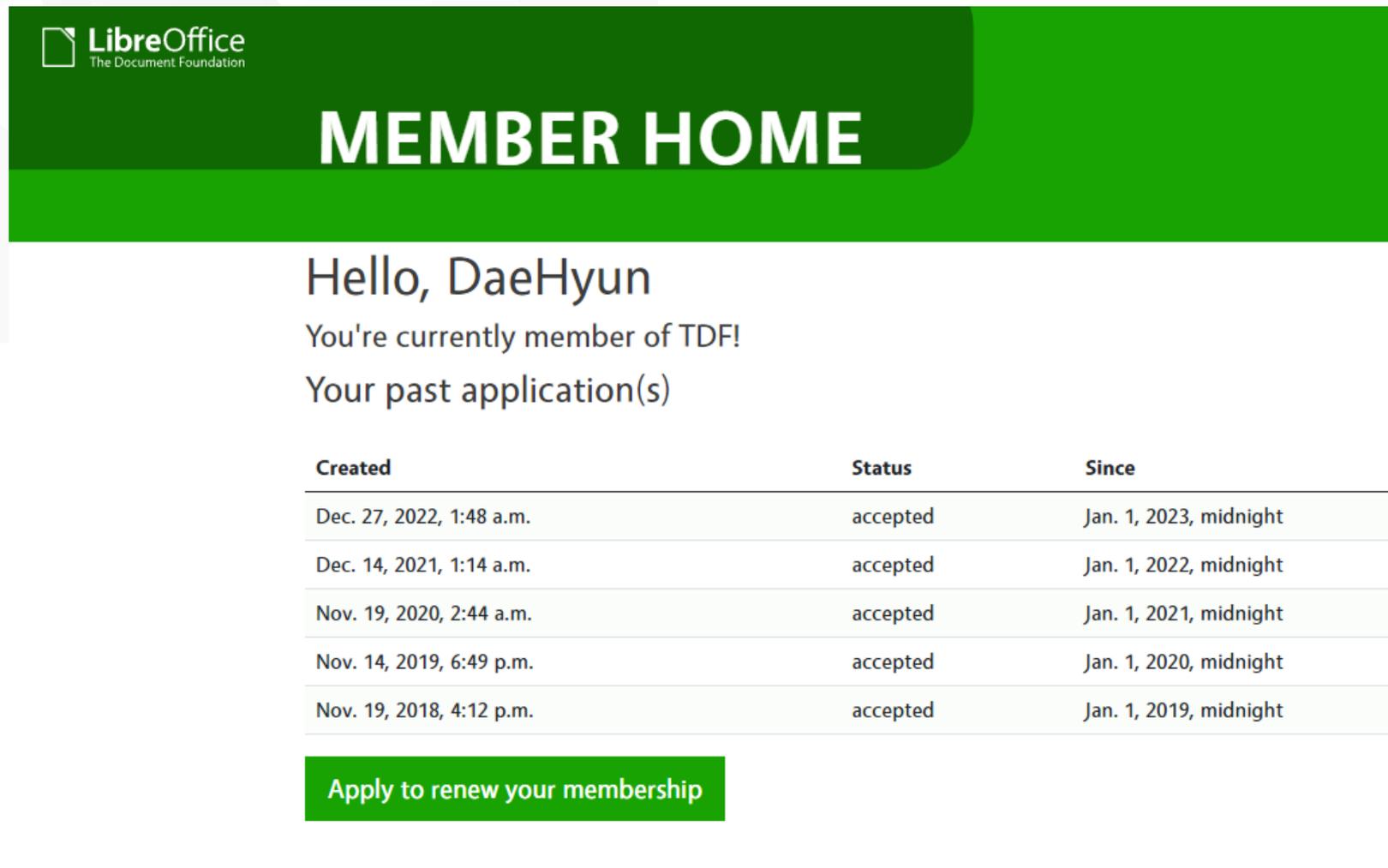
- ▼ I watched KDE akademy 2018 Keynote speech of Dan Bielefeld
  - ▼ “Mapping Crimes Against Humanity in North Korea with FOSS”
    - ▼ <https://conf.kde.org/en/Akademy2018/public/events/78>
    - ▼ He describes his North Korea human rights NGO( 전환기 정의 워킹 그룹 /Transitional Justice Working Group) working and using free and open source software and data(FOSSD)
    - ▼ He added that using FOSS in Korea is a challenge for foreigners
      - ▼ Korean Input, fonts, banking & online transactions
      - ▼ In addition, Hangeul Word processor / .HWP files

# Became a TDF Member and interview

- ▼ Became a TDF Member (2019.01.01 ~ )
  - ▼ <https://www.documentfoundation.org/governance/members/>
- ▼ The Document Foundation Blog:
  - ▼ Community Member Monday: DaeHyun Sung
  - ▼ <https://blog.documentfoundation.org/blog/2019/08/05/community-member-monday-dae Hyun-sung/>

# Became a TDF Member and interview

## ▼ TDF Member history



The screenshot shows the 'MEMBER HOME' page for a user named DaeHyun. It includes the LibreOffice logo, a greeting, and a table of membership applications. A green button at the bottom says 'Apply to renew your membership'.

**MEMBER HOME**

Hello, DaeHyun  
You're currently member of TDF!  
Your past application(s)

Created	Status	Since
Dec. 27, 2022, 1:48 a.m.	accepted	Jan. 1, 2023, midnight
Dec. 14, 2021, 1:14 a.m.	accepted	Jan. 1, 2022, midnight
Nov. 19, 2020, 2:44 a.m.	accepted	Jan. 1, 2021, midnight
Nov. 14, 2019, 6:49 p.m.	accepted	Jan. 1, 2020, midnight
Nov. 19, 2018, 4:12 p.m.	accepted	Jan. 1, 2019, midnight

[Apply to renew your membership](#)

# Attended Korean OSS Community

- ▼ 2019.01.10. Technical document Translator Conference in Seoul, Korea
- ▼ Younggun Kim( 김영근 ), PSF(Python Software Foundation) Fellow, said that He use LibreOffice Writer on Linux to translate English into Korean (books & texts)
- ▼ <https://www.slideshare.net/scarinet/ss-127745157>



## LibreOffice Writer (Linux)

- 지금은 20189년. StarOffice, OpenOffice의 경험은 잊어라!
- 이게 될까 불안한 마음은 있지만 현재까지는 필요한 모든 기능 제공
- ODF 형식이 아니라 MS Word 형식으로 저장

기술 문서 번역 모임; 번역 도구 이야기 2019.01.10 iam@younggun.kim / @scari\_net

13

## CJKV Issues, Bugs

- ▼ CJKV Language Issues
- ▼ Deal with some Korean Language and Chinese and Japanese common issues and Korean's unique issues.

# CJKV Issues, Bugs

- ▼ Bug 83066(CJK)
  - ▼ CJK bugs are tracked META issues
    - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=83066](https://bugs.documentfoundation.org/show_bug.cgi?id=83066)
- ▼ Bug 113193 (CJK-Chinese-Traditional)
  - ▼ [META] Traditional Chinese (zh\_TW, zh\_HK) language-specific CJK issues
    - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=113193](https://bugs.documentfoundation.org/show_bug.cgi?id=113193)
- ▼ Bug 113194 (CJK-Chinese-Simplified)
  - ▼ [META] Simplified Chinese (zh\_CN) language-specific CJK issues
    - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=113194](https://bugs.documentfoundation.org/show_bug.cgi?id=113194)

# CJKV Issues, Bugs

- ▼ Bug 113195 (CJK-Japanese)
  - ▼ [META] Japanese language-specific CJK issues
    - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=113195](https://bugs.documentfoundation.org/show_bug.cgi?id=113195)
- ▼ Bug 113196 (CJK-Korean)
  - ▼ [META] Korean language-specific CJK issues
    - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=113196](https://bugs.documentfoundation.org/show_bug.cgi?id=113196)

# Dangi 단기 , Former Official Republic of Korea era

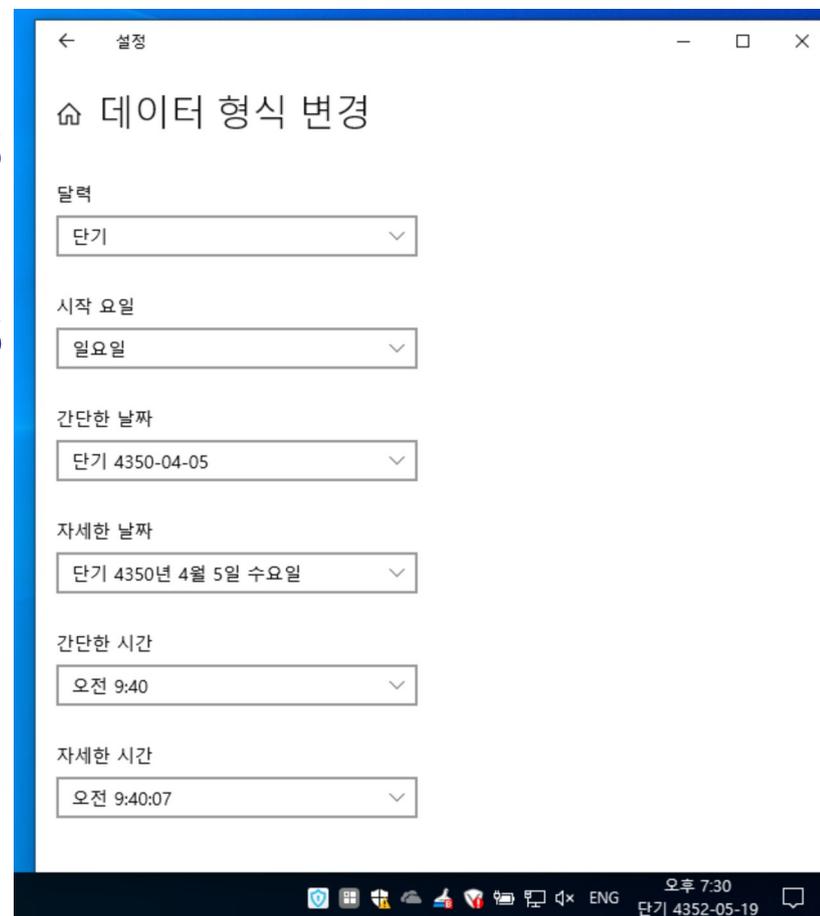
- ▼ Traditional Korean Calendar - Dangi( 단기 , 檀紀 )
  - ▼ The era name originating from the foundation of Gojoseon[ 고조선 / 古朝鮮 ] is also widely used in Korea as an indication of long civilization of Korea.
    - ▼ Full name: **Dangun-giwon** ( 단군기원 , 檀君紀元 "First Age of Lord Dangun" : 1948-1961)
    - ▼ Abbreviation Name: **Dangi**( 단기 , 檀紀 )
    - ▼ The Dangi Calendar measures years from the ancient founding of Korea in 2333 B.C.

# Dangi 단기 , Former Official Republic of Korea era

- ▼ Traditional Korean Calendar - Dangi( 단기 , 檀紀 )
  - ▼ Until 1961, Republic of Korea( 대한민국 / 大韓民國 , a.k.a. South Korea) officially used to Dangi( 단기 / 檀紀 ) era
    - ▼ [http://www.law.go.kr/법령/연호에관한법률/\(00004,19480925\)](http://www.law.go.kr/법령/연호에관한법률/(00004,19480925))
      - ▼ 年號에關한法律 [ 시행 1948. 9. 25. ] [ 법률 제 4 호 , 1948. 9. 25., 제정 ] 大韓民國의 公用年號는 檀君紀元으로 한다 .  
附則 < 법률 제 4 호 , 1948. 9. 25.> 本法은 公布日로부터 施行한다 .
  - ▼ [Bug 125446] Support to Korean Traditional Calendar, Dangi( 단기 / 檀紀 ) Calendar on LibreOffice  
[https://bugs.documentfoundation.org/show\\_bug.cgi?id=125446](https://bugs.documentfoundation.org/show_bug.cgi?id=125446)
  - ▼ Support to Korean Dangi Calendar for Tdf#125446  
<https://gerrit.libreoffice.org/#/c/72943/> & <https://gerrit.libreoffice.org/#/c/72944/>

# Dangi 단기 , Former Official Republic of Korea era

- ▼ Windows 10 support Dangi Calendar
- ▼ ICU library support Dangi Calendar
  - ▼ ICU4C 50  
<http://bugs.icu-project.org/trac/ticket/9255>
  - ▼ ICU4J 51  
<http://bugs.icu-project.org/trac/ticket/9616>



# Dangi 단기 , Former Official Republic of Korea era

## Example of Microsoft Excel and Hancom Hancell[ 훈셀 ]

The image displays two side-by-side screenshots of spreadsheet software. The left screenshot shows Microsoft Excel with a date '2019-05-25' in a cell. A '셀 서식' (Cell Format) dialog box is open, showing the '날짜' (Date) category selected. The '범주(C):' (Category) is set to '단기' (Short Date), and the '형식(F):' (Format) is '4345-03-14'. The right screenshot shows Hancom Hancell with a date '4352년 05월 31일 금요일' in a cell. A '셀 서식' dialog box is open, showing the '날짜' category selected. The '범주' (Category) is set to '날짜' (Date), and the '형식' (Format) is '4337년 10월 09일 토요일'. Both dialog boxes include options for '표시 형식' (Display Format), '맞춤' (Custom), '글꼴' (Font), '테두리' (Border), '재우기' (Reset), and '보호' (Protect).

# Dangi 단기 , Former Official Republic of Korea era

## Example of Hancom Hancell[ 훈셀 ] and LibreOffice

	A	B	C
1			
2		단기 표기 테스트	
3	서기	YYYY-MM-DD	2019-05-04
4	단기	YYYY-MM-DD	2019/05/04
5	단기	YY-M-D	19/5/4
6	단기	YYYY년 M월 D일 요일	2019년 5월 4일 토요일
7	단기	YYYY년 M월 D일	2019년 5월 4일
8	단기	YYYY년 MM월 DD일 요일	2019년 05월 04일 토요일
9	단기	YYYY년 MM월 DD일	2019년 05월 04일
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

# Dangi 단기 , Former Official Republic of Korea era

- ▼ Example of Microsoft Excel and Hancom Hancell[ 훈셀 ]
  - ▼ Dangi Calendar and Cell attributes

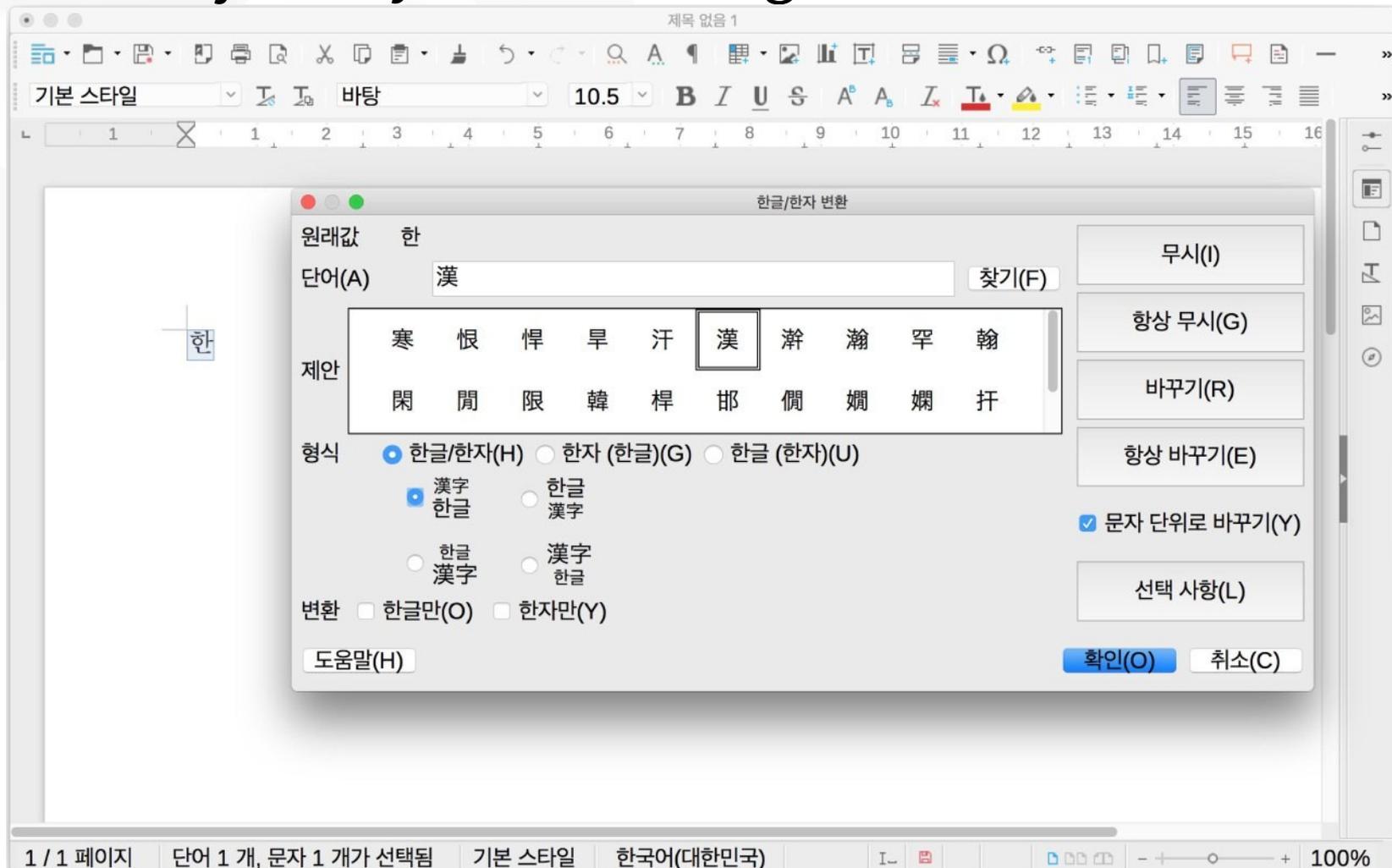
Gregorian Calendar	Dangi Calendar	Cell attributes
2019-05-25	4352-05-25	[\$-50000]yyyy-mm-dd;@
19-5-25	52-5-25	[\$-50000]yy-m-d;@
2019 년 5 월 25 일 토요일	4352 년 5 월 25 일 토요일	[\$-50412]yyyy" 년 " m" 월 " d" 일 " dddd;@
2019 년 5 월 25 일	4352 년 5 월 25 일	[\$-50000]yyyy" 년 " m" 월 " d" 일 ";@
2019 년 05 월 25 일 토요일	4352 년 05 월 25 일 토요일	[\$-50412]yyyy" 년 " mm" 월 " dd" 일 " dddd;@
2019 년 05 월 25 일	4352 년 05 월 25 일	[\$-50000]yyyy" 년 " mm" 월 " dd" 일 ";@

# Korean Hanja Conversion Menu Bug

- ▼ Korean Hanja Conversion Menu bugs
  - ▼ Korean Hanja Ruby Notation bug
    - ▼ Korean Hangul/Hanja Conversion Menu's "add Korean Ruby script" not work
      - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=117857](https://bugs.documentfoundation.org/show_bug.cgi?id=117857)
  - ▼ Don't convert Hanja to Hangul
    - ▼ Some Hanja characters have multiple Sounds[ 다음자 / 多音字 ]
      - ▼ Korean Hanja to Hangul Conversion can't show multiple Korean Hangul Characters
        - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=118476](https://bugs.documentfoundation.org/show_bug.cgi?id=118476)

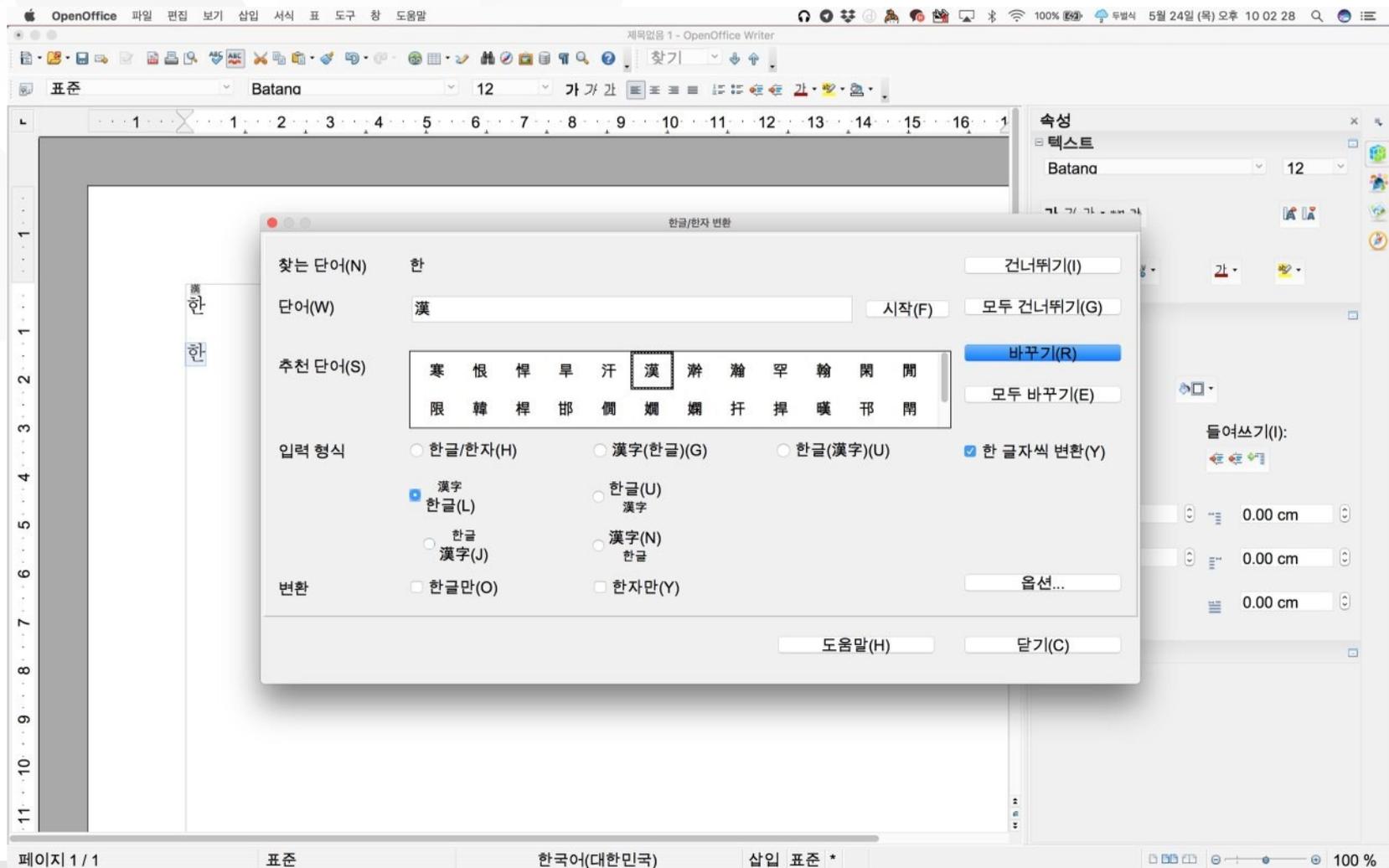
# Korean Hanja Conversion Menu Bug

## ▼ Korean Hanja Ruby Notation Bug

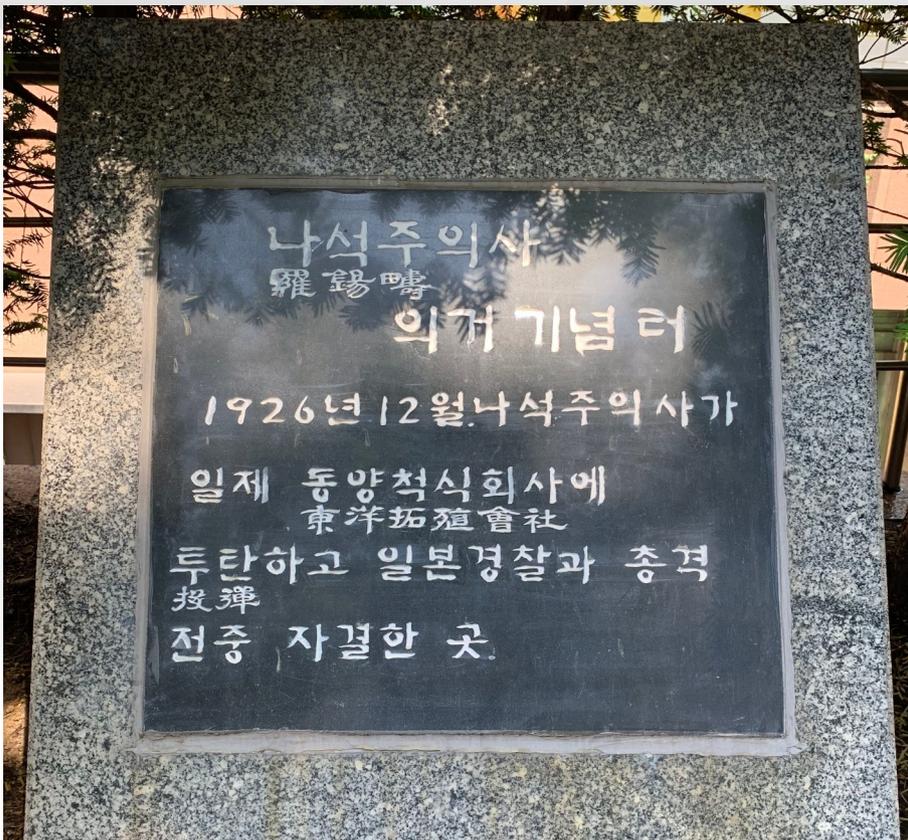


# Korean Hanja Conversion Menu Bug

- Work normally Korean Hanja Ruby Notation on OpenOffice



# Example of Korean Hanja Ruby characters



천지지도 일음양오행이이  
天地之道는 一陰陽五行而已니라.

천지의 이치는 오직 음양과 오행뿐이다.

곤복지간 위태극 이동정지후 위음양  
坤復之間이 爲太極이요 而動靜之後에 爲陰陽이니라.

음陰이 극에 달한 곤坤과 양陽이 태어나려는 복復, 그 사이야말로 태극太極이며, 움직이고는 멈춘 후에 음양이 되는 것이다.

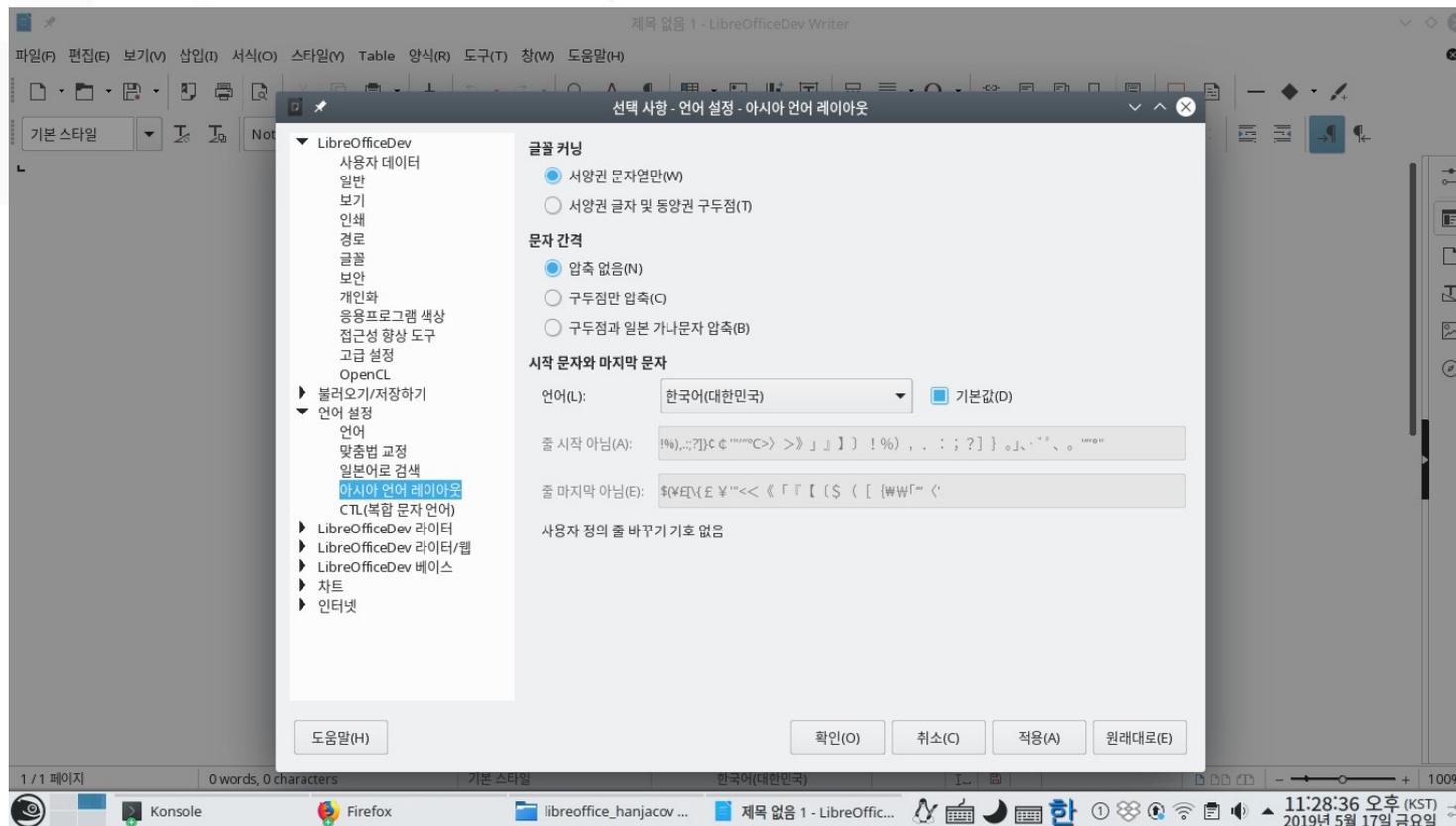
국가원수의 공식호칭은 총통總統이다. 임기는 1996년 수·개정 헌법상 4년으로 1차에 한하여 연임할 수 있는 4년 중임重任제다. 영어 President의 의미인 총통이라는 용어가 중국역사에 등장하게 된 것은 1911년, 신해혁명으로 청조가 멸망하므로써 황제皇帝 혹은 천자天子라 불리던 봉건군주가 역사에서 자취를 감추고 난 후이다. 비록 혁명에 성공하였지만 당시 중화민국은 각 지방의 군벌軍閥들에 의해서 분열되어 있었다. 쑨원과 중앙정부의 힘은 미약하였다. 쑨원은 혁명 성공 후 중화민국임시대총통으로 추대된다. 하지만 곧 현실상의 이유로 인하여 북양군벌北洋軍閥의 실력자이던 위안스카이袁世凱(원세개)에게 공화국 대총통직을 양보하게 되어 1912년 위안스카이가 중화민국 대총통으로 취임한다. 총통이라는 칭호가 역사에 등장한 순간이다.

1 대학지도 재명명덕 재친민 재지어지선  
大學之道 在明明德 在親民 在止於至善

지지이후유정 정이후능정 정이후능안 안이후  
知止而后有定 定而后能靜 靜而后能安 安而后  
려이후능득  
處而后能得

# Line breaking rules in Korean 줄 바꿈 규칙

- Line breaking rules - 줄바꿈 규칙 , 금칙처리
  - [Repository] modified Line Breaking rule in Korean  
<https://gerrit.libreoffice.org/#/c/72492/>



# Korean Hanja Conversion Menu Bug

- Multiple Sounds are not shown on Korean Hanja Conversion Menu. → 龜 ( 구 gu, 귀 gwi, 균 gyun)

龜

땅이름 '구(Gu)', 거북 '귀(Gwi)', 터질 '균(Gyun)'

일본어 음독(日本語 音)

일본어 음독(日本語 訓)

한어병음(漢語拼音, Pi)

주음부호(注音符號, Bo)

구미(龜尾)

귀감(龜鑑)

균열(龜裂)



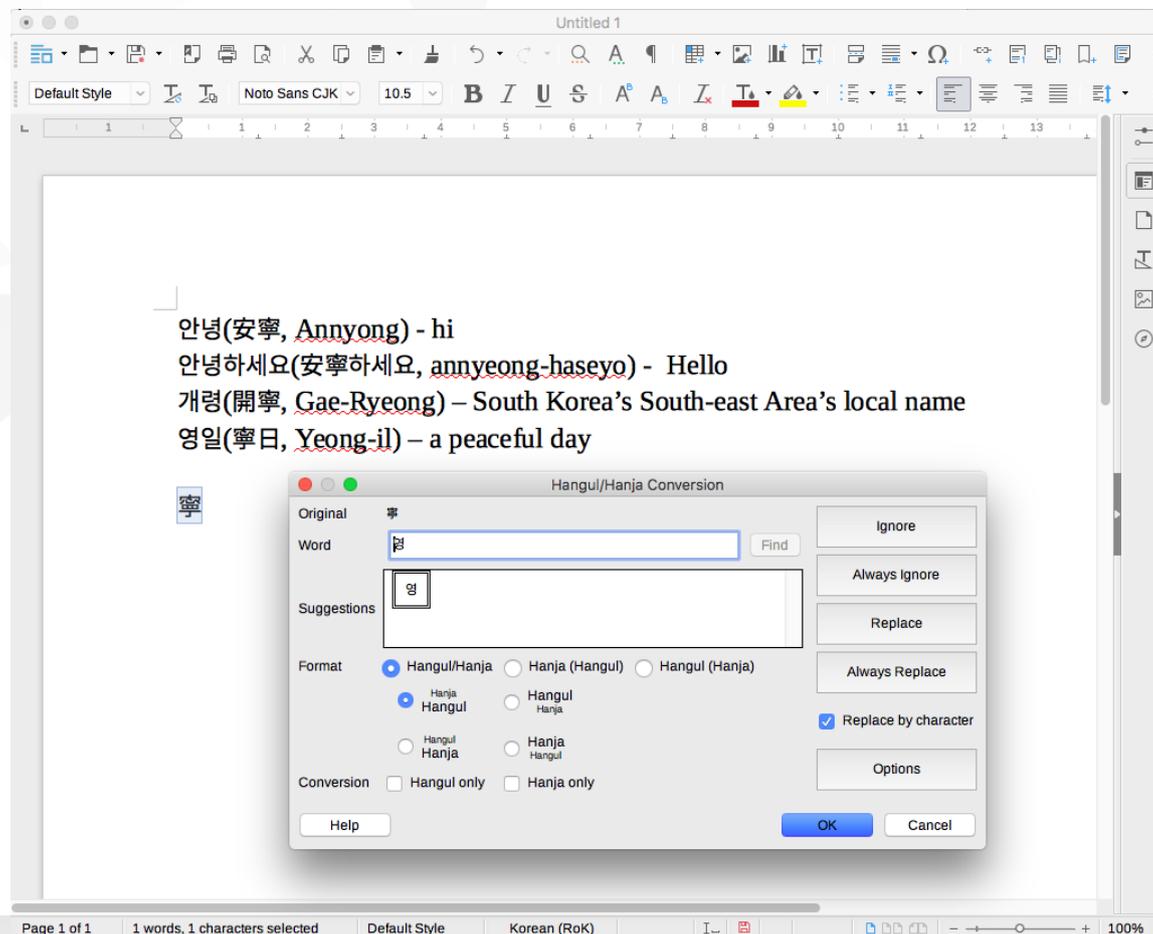
1 words, 1 characters selected

Default Style

Korean (RoK)

# Korean Hanja Conversion Menu Bug

- Multiple Sounds are not shown on Korean Hanja Conversion Menu. → **寧** (녕 nyeong, 령 ryeong, 영 yeong)

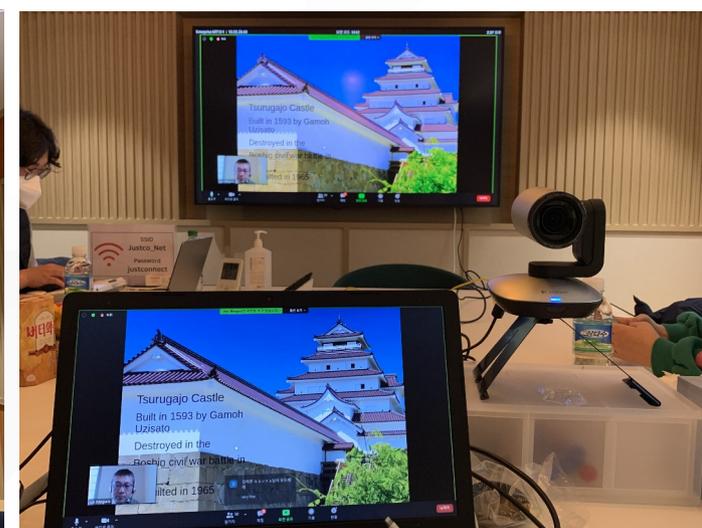
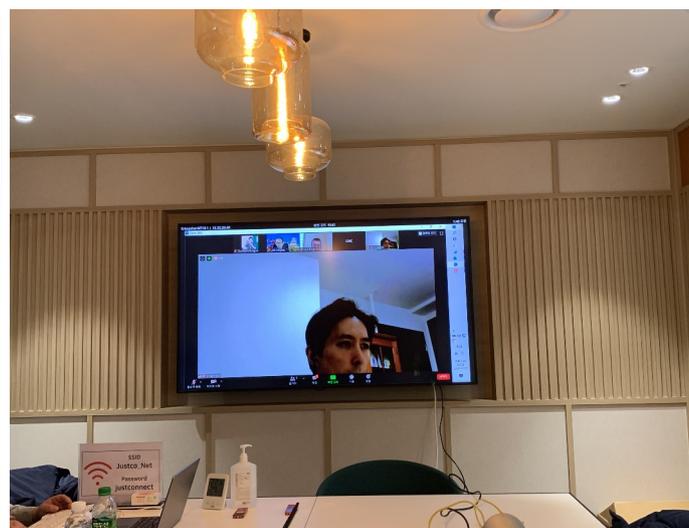


## COVID-19 period(2020-2022)

- ▼ 2020 LibreOffice Korea · Japan Online Seminar
- ▼ What can I do For LibreOffice
- ▼ In 2021-2022, Burned out and change job

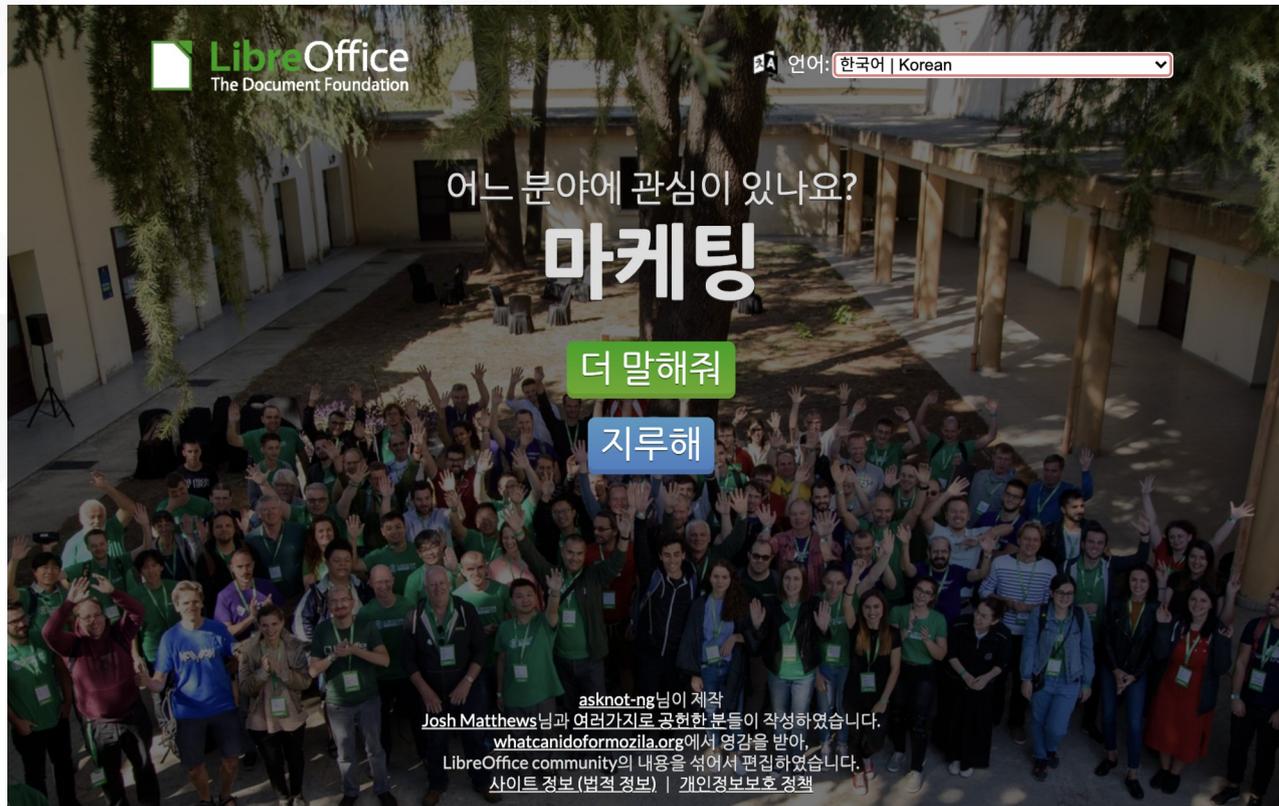
# 2020 LibreOffice Korea · Japan Online Seminar

- ▶ In 2020, LibreOffice Korea-Japan seminar was held with the support of NIPA
- ▶ Thanks to NIPA & LibreOffice Japanese Team[LibreOffice 日本語チーム ]!



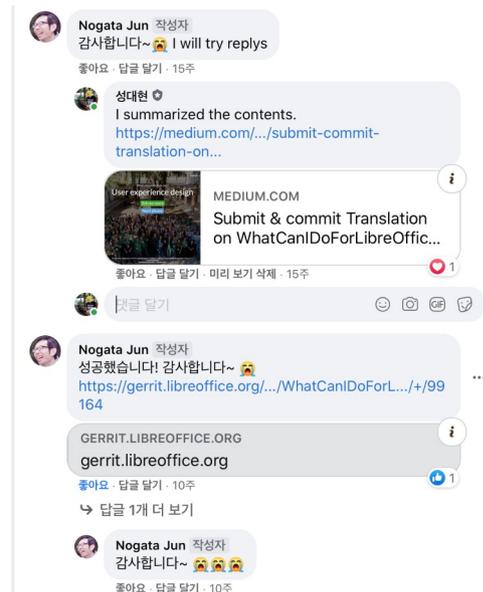
# What can I do For LibreOffice

- ▼ Site: <https://whatcanidoforlibreoffice.org/>



# What can I do For LibreOffice

- ▶ In 2020, Collaboration with LibreOffice Japanese Community
- ▶ I already contributed to it for a Korean version (2019)
- ▶ I helped to contribute "What Can I do for LibreOffice" to the LibreOffice Japanese community (2020)



# Collaborate LibreOffice Asia Communities

- ▼ Collaboration with LibreOffice CJK Communities on LibreOffice Calc
  - ▼ Chinese numerals(Korean: 갓은자 , Japanese: 漢数字 ) on both Korean and Japanese
    - ▼ Korea's Hanja Upper Numbers[ 한자 갓은자 ] 5 and 1000 are wrong  
[https://bugs.documentfoundation.org/show\\_bug.cgi?id=130077](https://bugs.documentfoundation.org/show_bug.cgi?id=130077)

# Collaborate LibreOffice Asia Communities

## ▼ Collaboration with LibreOffice CJK Communities on LibreOffice Calc

- ▼ Chinese numerals(Korean: **갓은자** , Japanese: **漢数字** ) on both Korean and Japanese
  - ▼ Check Both Korean & Japanese contributors(Naruhiko Ogasawara)
    - ▼ Bug 130140 - There is a string display error with numbers above 10 about All Korean Numeric text and Japanese Modern Numeric text  
[https://bugs.documentfoundation.org/show\\_bug.cgi?id=130140](https://bugs.documentfoundation.org/show_bug.cgi?id=130140)
    - ▼ Bug 130193 - Japanese Traditional Numeric texts are wrong such as 1,2,3, 10, 1000, 10000 [https://bugs.documentfoundation.org/show\\_bug.cgi?id=130193](https://bugs.documentfoundation.org/show_bug.cgi?id=130193)
    - ▼ Bug 130077 - Korea's Hanja Upper Numbers[ **한자 갓은자** ] 5 and 1000 are wrong [https://bugs.documentfoundation.org/show\\_bug.cgi?id=130077](https://bugs.documentfoundation.org/show_bug.cgi?id=130077)

# Collaborate LibreOffice Asia Communities

- ▼ Check & fixed Both Korean & Japanese Excel-Calc number format
  - ▼ Submit & approve some codes
    - ▼ Gerrit review system
      - ▼ tdf#130193: Asian Excel-Calc number format interop  
<https://gerrit.libreoffice.org/c/core/+94376>
      - ▼ Remapping NatNum-DBNum in Korean for compatibility tdf#130193  
<https://gerrit.libreoffice.org/c/core/+94747>
    - ▼ Commit
      - ▼ tdf#130193: Asian Excel-Calc number format interop  
<https://git.libreoffice.org/core/+9efd7cd637d9d882f2fc8277b657ec117c591e80>
      - ▼ Remapping NatNum-DBNum in Korean for compatibility tdf#130193  
<https://git.libreoffice.org/core/+51404171449eadcb69057ff03cbb7bdb0117910b%5E%21>

# Collaborate LibreOffice Asia Communities

## Before fixing the issue

excel\_2019\_cjk\_number\_more\_ten\_test.xlsx (읽기 전용) - LibreOffice Calc

파일(F) 편집(E) 보기(V) 삽입(I) 서식(O) 스타일(S) 시트(S) 데이터(D) 도구(T) 창(W) 도움말(H)

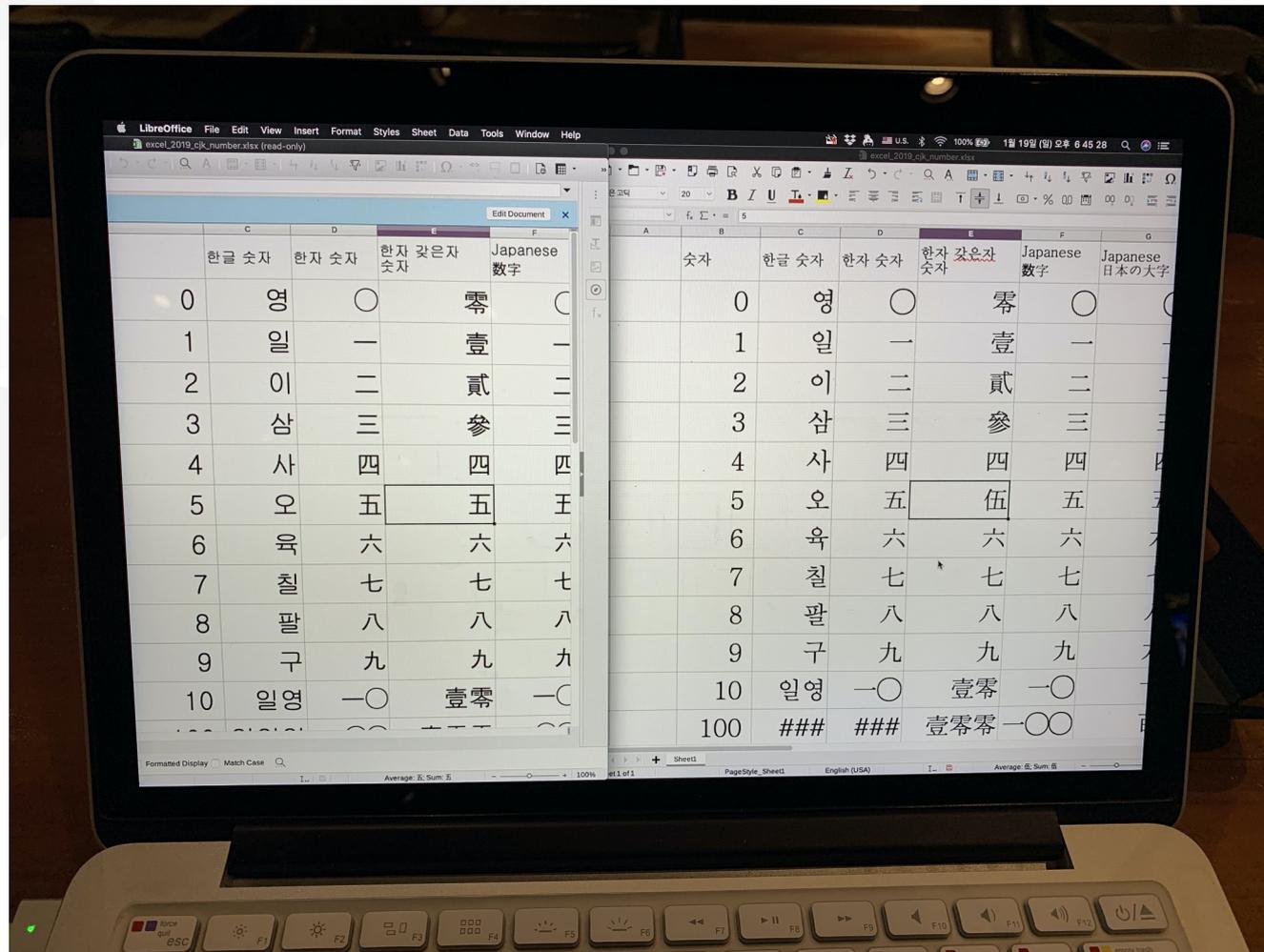
fx Σ = 한글 숫자

	B	C	D	E	F	G	H	I	J	K	
1	숫자	한글 숫자	한자 숫자	한자 같은자 숫자	Japanese 数字	Japanese 日本の大文字	Mainland China 大写	Mainland China 小写	Taiwan 大寫	Taiwan 小寫	
2	0	영	〇	零	〇	〇	〇	〇	零	〇	零
3	1	일	一	壹	一	一	一	一	壹	一	壹
4	2	이	二	貳	二	二	二	二	貳	二	貳
5	3	삼	三	參	三	三	三	三	參	三	參
6	4	사	四	肆	四	四	四	四	肆	四	肆
7	5	오	五	伍	五	五	五	五	伍	五	伍
8	6	육	六	陸	六	六	六	六	陸	六	陸
9	7	칠	七	柒	七	七	七	七	柒	七	柒
10	8	팔	八	捌	八	八	八	八	捌	八	捌
11	9	구	九	玖	九	九	九	九	玖	九	玖
12	10	일영	一〇	壹零	一〇	十	一十	壹拾	一十	壹拾	
13	11	일일	一一	壹壹	一一	十一	一十一	壹拾壹	一十一	壹拾壹	
14	12	일이	一二	壹貳	一二	十二	一十二	壹拾貳	一十二	壹拾貳	
15	13	일삼	一三	壹參	一三	十三	一十三	壹拾參	一十三	壹拾參	
16	14	일사	一四	壹肆	一四	十四	一十四	壹拾肆	一十四	壹拾肆	
17	15	일오	一五	壹五	一五	十五	一十五	壹拾伍	一十五	壹拾伍	
18	16	일육	一六	壹六	一六	十六	一十六	壹拾陸	一十六	壹拾陸	
19	17	일칠	一七	壹七	一七	十七	一十七	壹拾柒	一十七	壹拾柒	
20	18	일팔	一八	壹八	一八	十八	一十八	壹拾捌	一十八	壹拾捌	
21	19	일구	一九	壹九	一九	十九	一十九	壹拾玖	一十九	壹拾玖	
22	20	이영	二〇	貳零	二〇	二十	二十	貳拾	二十	貳拾	
23	21	이일	二一	貳壹	二一	二十一	二十一	貳拾壹	二十一	貳拾壹	
24	22	이이	二二	貳貳	二二	二十二	二十二	貳拾貳	二十二	貳拾貳	

1 / 1 시트 PageStyle\_Sheet1 평균: 합계: 0 100%

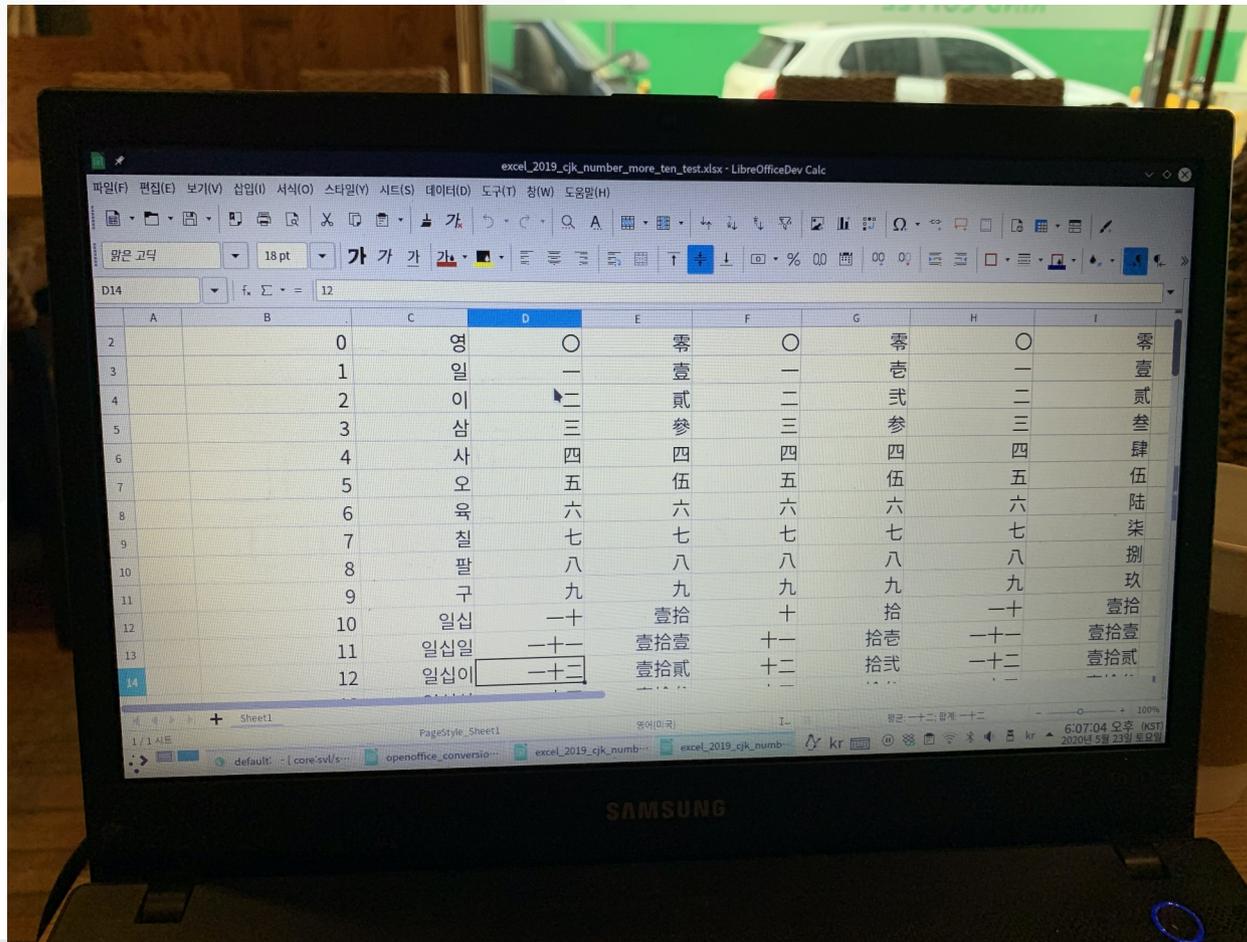
# Collaborate LibreOffice Asia Communities

- Fixed it – Korean: changed 갖은자 ‘五’ to ‘伍’



# Collaborate LibreOffice Asia Communities

- Fixed Chinese numerals(Korean: **꺀은자** , Japanese: **漢数字** ) with both Korean and Japanese



# 4 options of Korean Numbering Texts

- ▼ In MS OOXML document, shows Korean Numbering texts
  - ▼ [MS-DOCX]: Word Extensions to the Office Open XML (.docx) File Format 2.4 numFmt Extensions  
[https://docs.microsoft.com/en-us/openspecs/office\\_standards/ms-docx/a1bb5809-e361-4e49-8e16-7f1a67da4121](https://docs.microsoft.com/en-us/openspecs/office_standards/ms-docx/a1bb5809-e361-4e49-8e16-7f1a67da4121)
  - ▼ [MS-OE376]: Office Implementation Information for ECMA-376 Standards Support 2.1.350 Part 4 Section 2.13.5.30, numberingChange (Previous Paragraph Numbering Properties)  
[https://docs.microsoft.com/en-us/openspecs/office\\_standards/ms-oe376/a5deef83-bb01-410f-bde0-9c35abe4ca52](https://docs.microsoft.com/en-us/openspecs/office_standards/ms-oe376/a5deef83-bb01-410f-bde0-9c35abe4ca52)

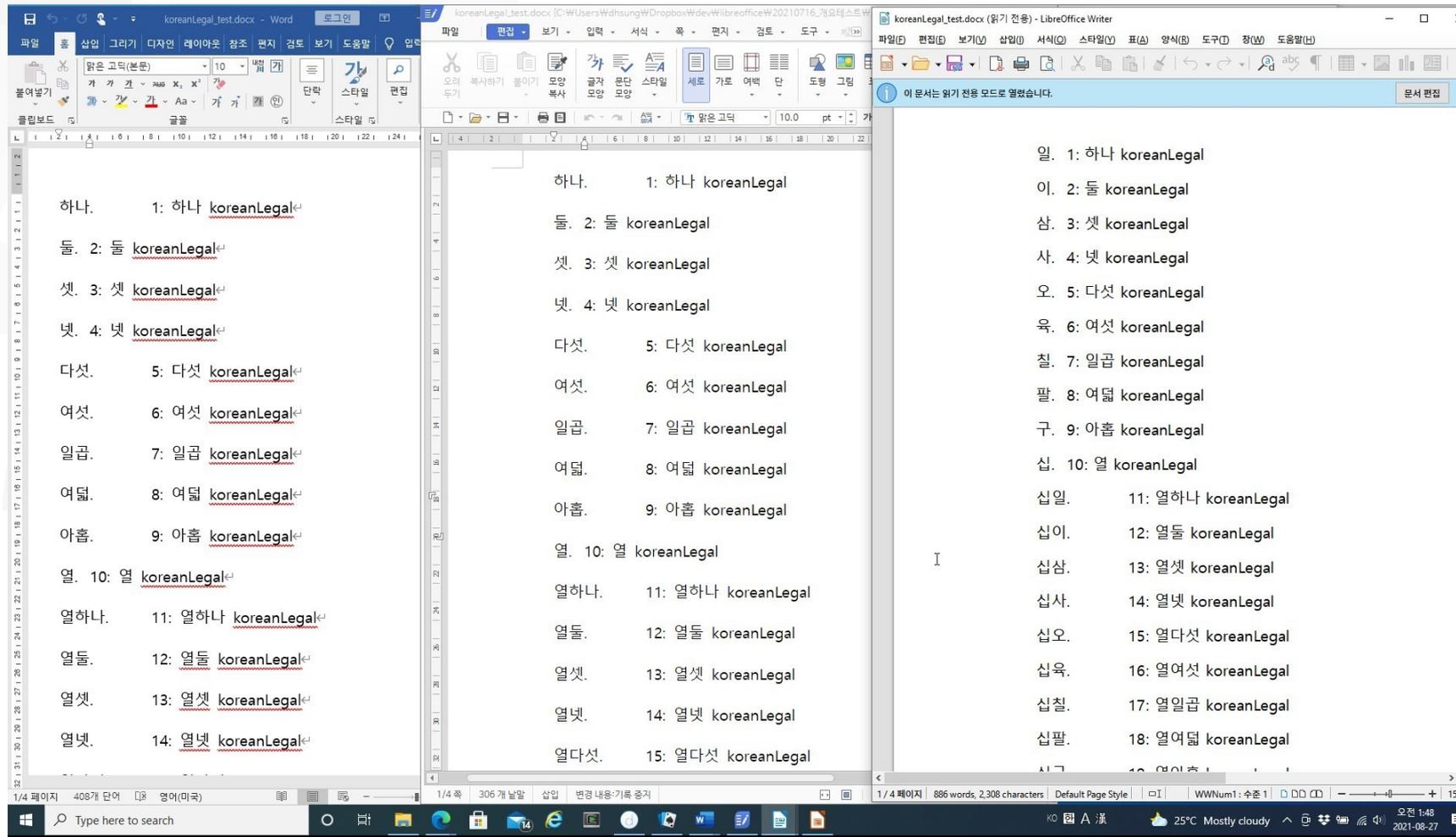
# 4 options of Korean Numbering Texts

Number	Korean Counting	Korean Legal	Korean Digital	Korea Digital2
1	일	하나	일	一
2	이	둘	이	二
3	삼	셋	삼	三
4	사	넷	사	四
5	오	다섯	오	五
6	육	여섯	육	六
7	칠	일곱	칠	七
8	팔	여덟	팔	八
9	구	아홉	구	九
10	십	열	일영	一零
11	십일	열하나	일일	一一
99	구십구	아흔아홉	구구	九九
100	백	백	일영영	一零零

# Fix Korean Numbering

## ▼ Korean Legal

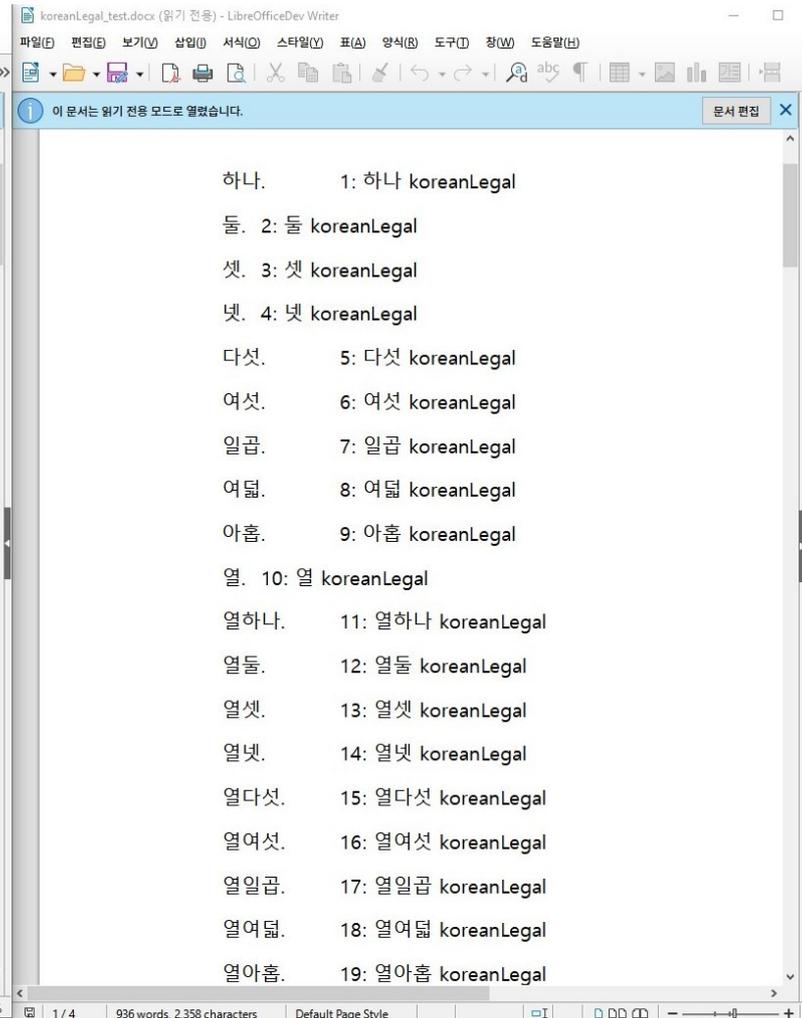
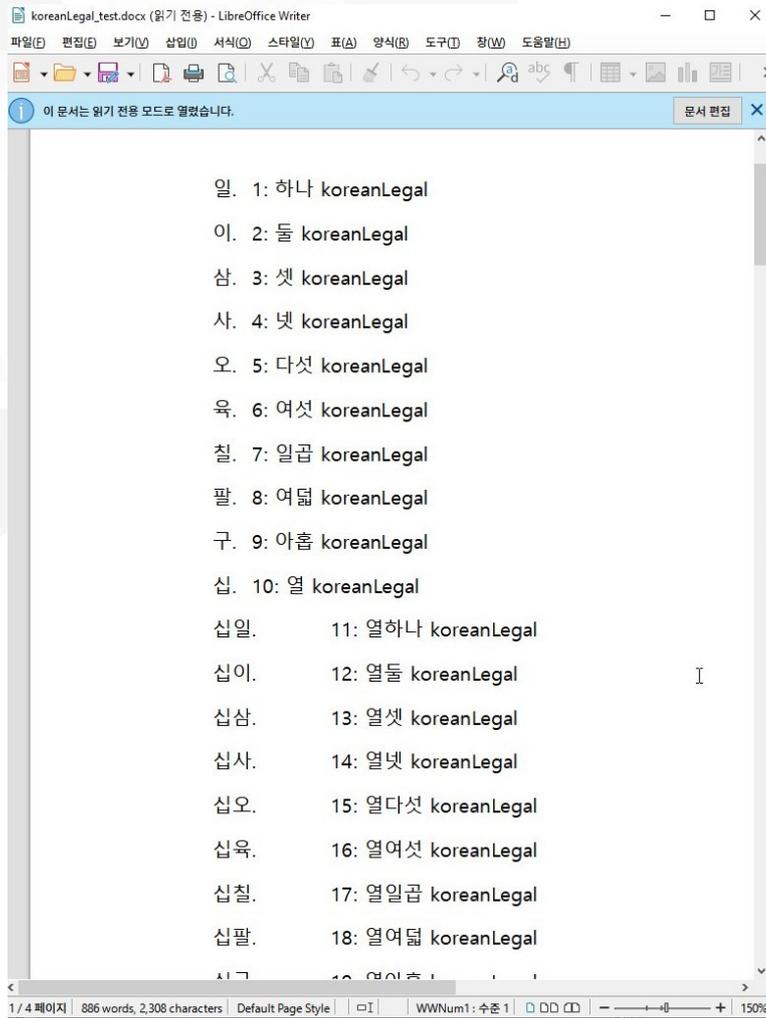
- ▼ 1: 하나
- ▼ 2: 둘
- ▼ 3: 셋
- ▼ 4: 넷
- ▼ 5: 다섯
- ▼ 6: 여섯
- ▼ 7: 일곱
- ▼ 8: 여덟
- ▼ 9: 아홉
- ▼ 10: 열



# Fix Korean Numbering

## ▼ Korean Legal

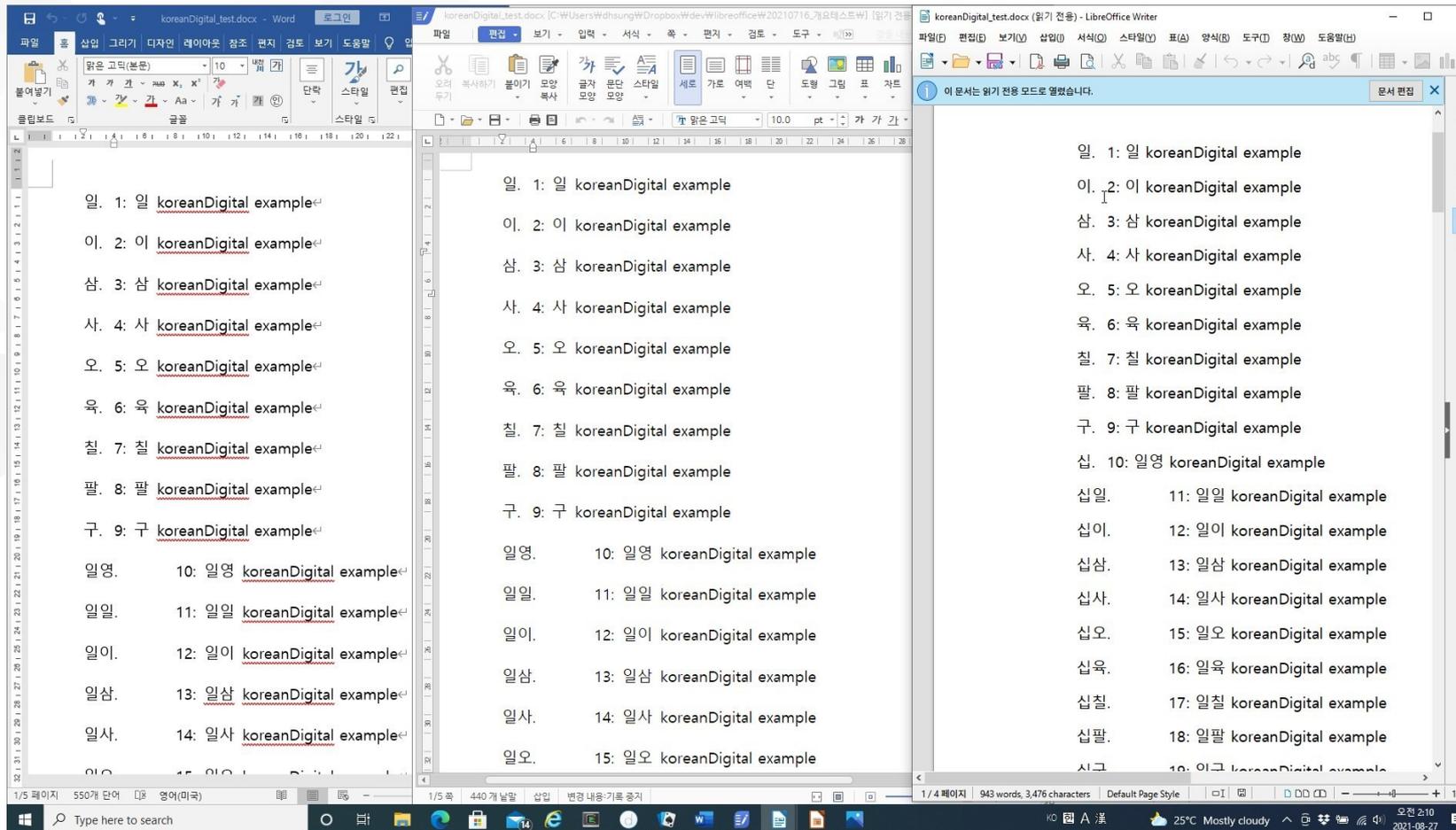
- ▼ 1: 하나
- ▼ 2: 둘
- ▼ 3: 셋
- ▼ 4: 넷
- ▼ 5: 다섯
- ▼ 6: 여섯
- ▼ 7: 일곱
- ▼ 8: 여덟
- ▼ 9: 아홉
- ▼ 10: 열



# Fix Korean Numbering

## ▼ Korean Digital

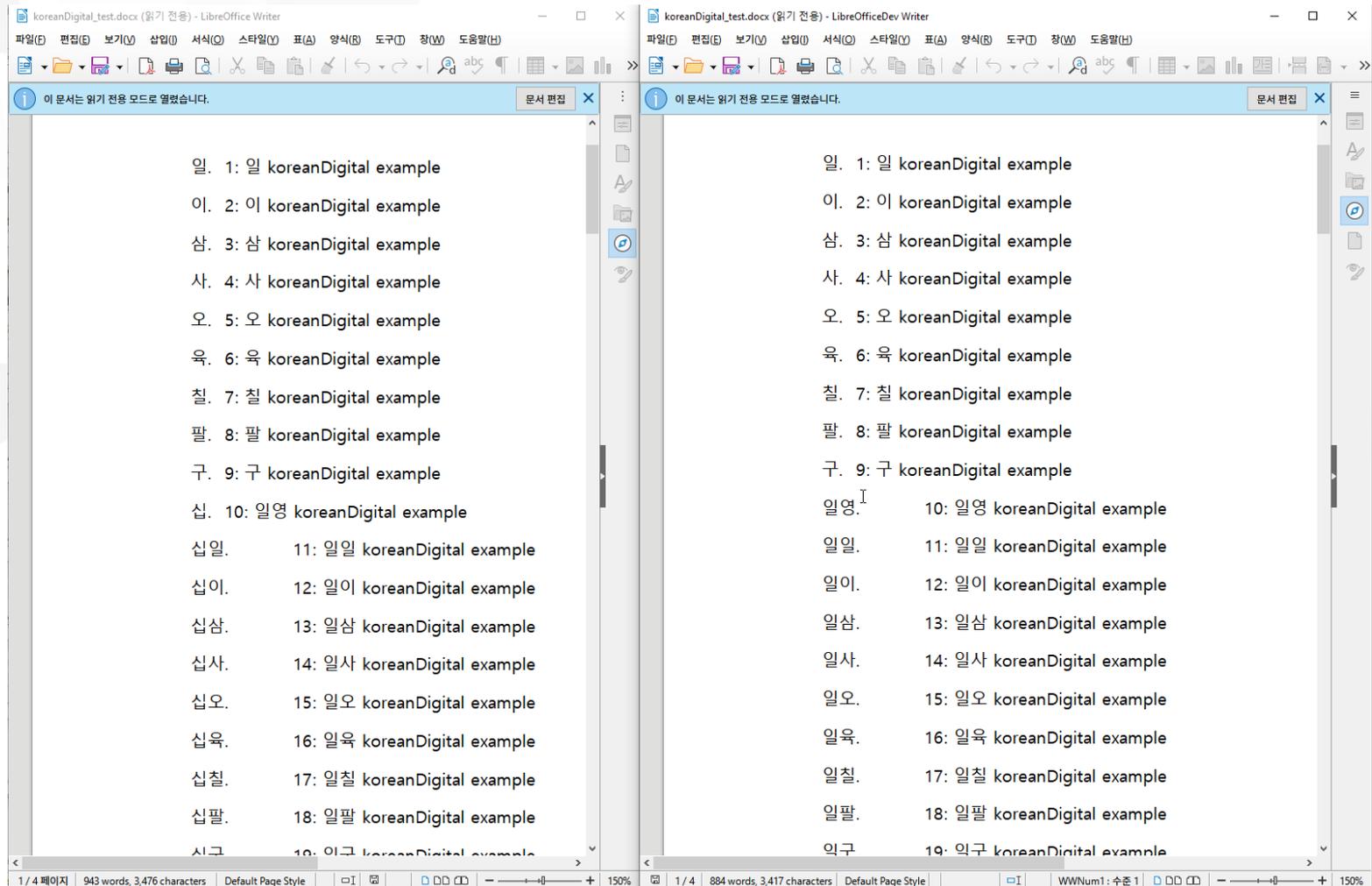
- ▼ 1: 일
- ▼ 2: 이
- ▼ 3: 삼
- ▼ 4: 사
- ▼ 5: 오
- ▼ 6: 육
- ▼ 7: 칠
- ▼ 8: 팔
- ▼ 9: 구
- ▼ 10: 일영
- ▼ 100: 일영영



# Fix Korean Numbering

## ▼ Korean Digital

- ▼ 1: 일
- ▼ 2: 이
- ▼ 3: 삼
- ▼ 4: 사
- ▼ 5: 오
- ▼ 6: 육
- ▼ 7: 칠
- ▼ 8: 팔
- ▼ 9: 구
- ▼ 10: 일영
- ▼ 100: 일영영



# Fix Korean Numbering

## ▼ Korean Digital2

▼ 1: 一

▼ 2: 二

▼ 3: 三

▼ 4: 四

▼ 5: 五

▼ 6: 六

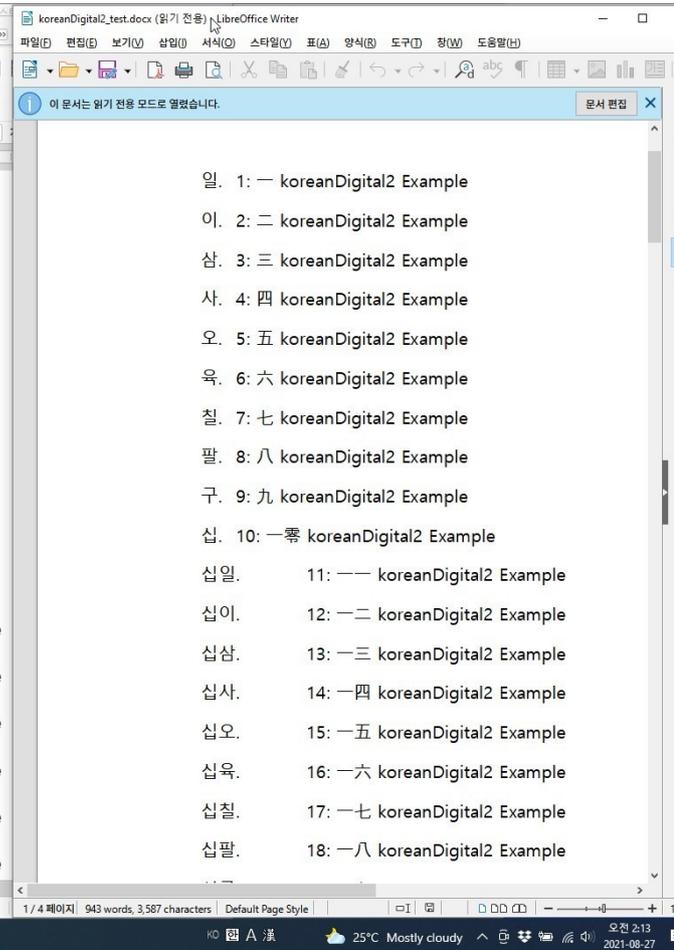
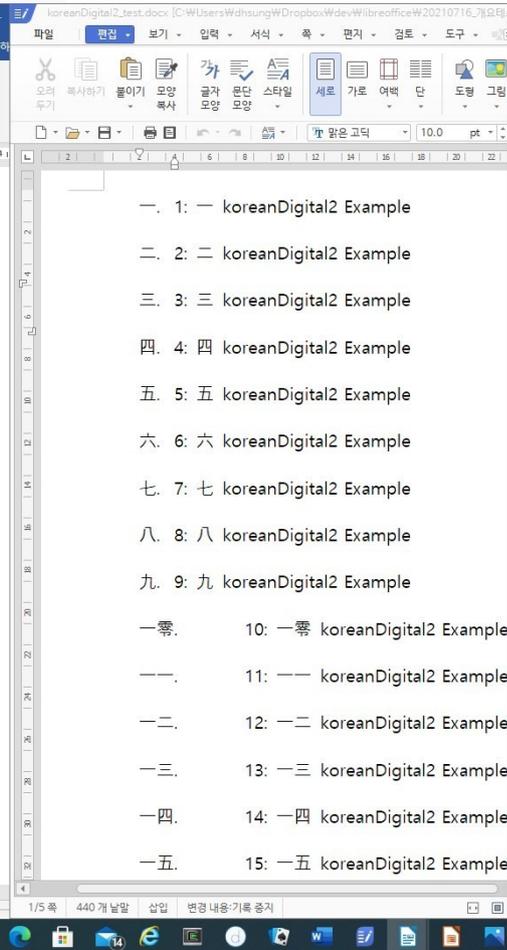
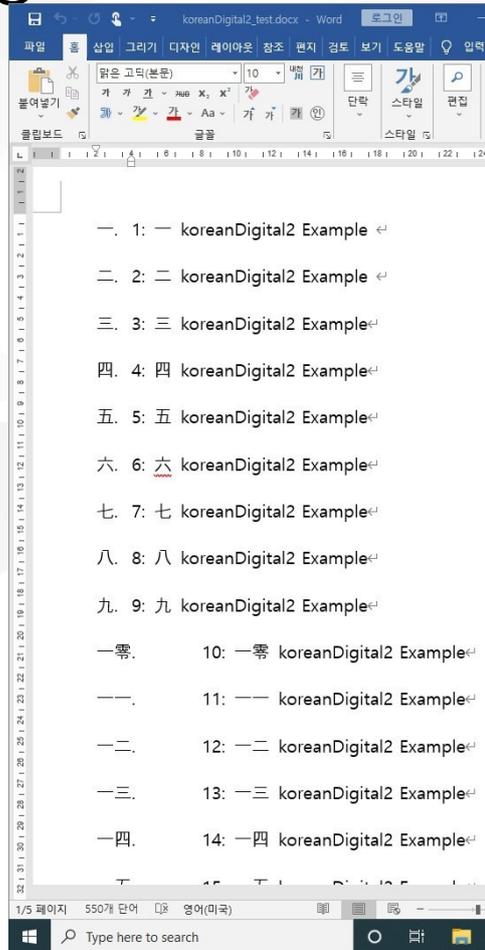
▼ 7: 七

▼ 8: 八

▼ 9: 九

▼ 10: 一零

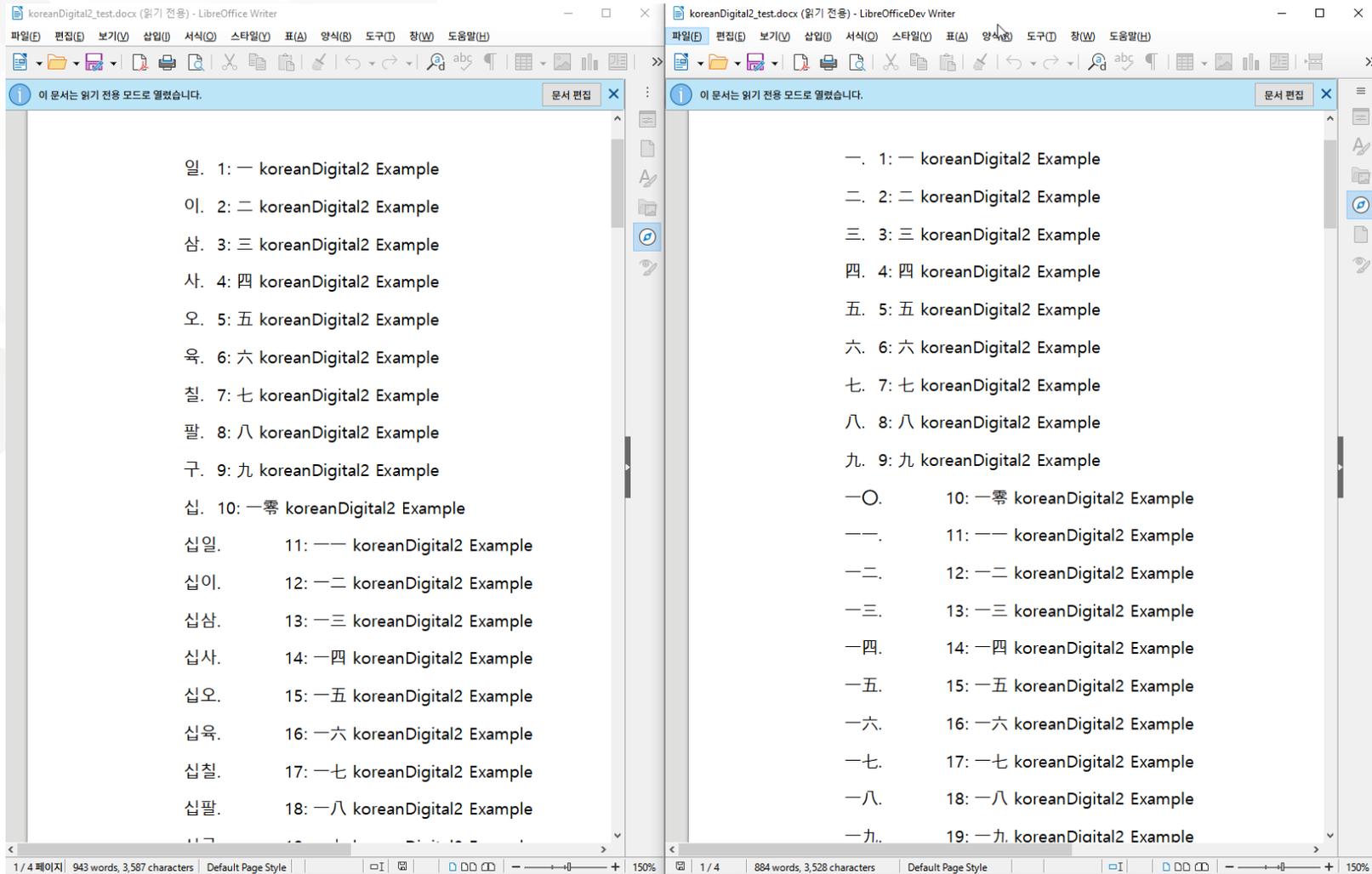
▼ 100: 一零零



# Fix Korean Numbering

## ▼ Korean Digital2

- ▼ 1: 一
- ▼ 2: 二
- ▼ 3: 三
- ▼ 4: 四
- ▼ 5: 五
- ▼ 6: 六
- ▼ 7: 七
- ▼ 8: 八
- ▼ 9: 九
- ▼ 10: 一零
- ▼ 100: 一零零



# Fix Korean Numbering

## ▼ Bugzilla

- ▼ Korean NumberFormats are missing and wrong on the Code  
[https://bugs.documentfoundation.org/show\\_bug.cgi?id=143526](https://bugs.documentfoundation.org/show_bug.cgi?id=143526)

## ▼ Gerrit:

- ▼ tdf#143526 fix and add Korean numbering  
[https://gerrit.libreoffice.org/c/core/+/119518](https://gerrit.libreoffice.org/c/core/+/)
- ▼ tdf#143526 add Korean Numbering test case & fix Hanja number codepoint  
[https://gerrit.libreoffice.org/c/core/+/120676](https://gerrit.libreoffice.org/c/core/+/)

# In 2021-2022, Burned out and change job

- ▼ during COVID-19 period(2020-2022)
  - ▼ Strongly hard overworking in 2020-2021
    - ▼ Japanese: 過勞 karo
    - ▼ Korean: 과로 過勞 gwaro
  - ▼ 2021
    - ▼ Got married
    - ▼ Burned out & quit the company → to pause to contribute LibreOffice
    - ▼ Move to South Korea's open source software company “Lablup” at the end of 2021
  - ▼ 2022
    - ▼ Became a daughter's daddy

## Currently(Since 2023)

- ▼ Try to contribute Korean and CJK Issues on LibreOffice

# Fix default Korean font size

- ▼ Change default Korean font size: 10.5pt to 10pt
  - ▼ [https://bugs.documentfoundation.org/show\\_bug.cgi?id=155947](https://bugs.documentfoundation.org/show_bug.cgi?id=155947)
  - ▼ <https://git.libreoffice.org/core/+4ffa5f2d741368bcc70ec3fd5d5ca1249cfc1e37%5E%21>
  - ▼ In Korean law, It shows “The font size is 10pt, with the exception “( )” should be 9pt, with the following exception”

# Fix default Korean font size

- ▼ Example of Korean law, the enforcement rules of "Regulations on Administrative Efficiency and Collaboration Promotion" [Korean name: " 행정 효율과 협업 촉진에 관한 규정 시행규칙 ") since 2011
  - ▼ [https://law.go.kr/%EB%B2%95%EB%A0%B9%EB%B3%84%ED%91%9C%EC%84%9C%EC%8B%9D/\(%ED%96%89%EC%A0%95%20%ED%9A%A8%EC%9C%A8%EA%B3%BC%20%ED%98%91%EC%97%85%20%EC%B4%89%EC%A7%84%EC%97%90%20%EA%B4%80%ED%95%9C%20%EA%B7%9C%EC%A0%95%20%EC%8B%9C%ED%96%89%EA%B7%9C%EC%B9%99,20210907,%EB%B3%84%ED%91%9C4\)](https://law.go.kr/%EB%B2%95%EB%A0%B9%EB%B3%84%ED%91%9C%EC%84%9C%EC%8B%9D/(%ED%96%89%EC%A0%95%20%ED%9A%A8%EC%9C%A8%EA%B3%BC%20%ED%98%91%EC%97%85%20%EC%B4%89%EC%A7%84%EC%97%90%20%EA%B4%80%ED%95%9C%20%EA%B7%9C%EC%A0%95%20%EC%8B%9C%ED%96%89%EA%B7%9C%EC%B9%99,20210907,%EB%B3%84%ED%91%9C4)

# Fix default Korean font size

- Example of Korean law, the enforcement rules of "Regulations on Administrative Efficiency and Collaboration Promotion" [Korean name: " 행정 효율과 협업 촉진에 관한 규정 시행규칙 ") since 2011

The screenshot shows a web browser window displaying the Korean law enforcement rules page. The browser address bar shows the URL: [law.go.kr/sBylInfoPLinkR.do?lslSeq=235365&lslNm=행정+효율과+협업+촉진에+관한+규정+시행규칙&bylNo=0004&bylBrNo=00&bylClIs=BE&bylEfYd...](http://law.go.kr/sBylInfoPLinkR.do?lslSeq=235365&lslNm=행정+효율과+협업+촉진에+관한+규정+시행규칙&bylNo=0004&bylBrNo=00&bylClIs=BE&bylEfYd...). The page title is "별표·서식" (Annexes and Forms). The main content area displays the title "행정 효율과 협업 촉진에 관한 규정 시행규칙" (Regulations on Administrative Efficiency and Collaboration Promotion) and the date "시행 2021. 9. 7." (Enforced 2021. 9. 7.). Below the title, there are two dropdown menus for selecting the annex and form type. The main content area shows the text of the regulations, including the following items:

- 가. 글자는 줄 또는 칸의 왼쪽부터 쓰되, 예외로 정하는 항목은 다음과 같다.
  - 1) 서식 명칭: 가운데
  - 2) 기입란을 구분하는 선이 없는 칸의 제목: 왼쪽 상단
  - 3) 항목 제목을 적은 칸: 가운데
  - 4) 제출 연월일, 서명 또는 날인: 오른쪽
- 나. 서식 명칭의 글꼴은 견고딕으로 하고 그 외의 글자는 돋움체로 하되, 필요한 경우 다른 글꼴을 사용할 수 있다.
- 다. 글자의 굵기는 보통 굵기로 하되, 민원인 또는 담당 공무원이 인지해야 할 필요가 있는 주요 사항과 서식 명칭은 굵은 글꼴로 한다.
- 8. 글자
  - 라. 글자 크기는 10pt를 기본으로 하고 "( )" 안의 글씨는 9pt로 하되, 예외로 정하는 항목은 다음과 같다.
    - 1) 서식 명칭: 16pt
    - 2) 시장·군수 등 행정기관 명칭: 13pt
    - 3) 첫 번째 항목의 제목: 11pt(두 번째 항목부터는 1pt씩 작은 글

# Fix default Korean font size

- ▼ Why does Japan use default font size as 10.5pt?
  - ▼ pTEX and Japanese Typesetting - Haruhiko Okumura 奥村 晴彦 <http://ajt.ktug.org/2008/0201okumura.pdf>
  - ▼ For Japanese and Latin characters to mingle coordinately, the height plus depth of the Latin font (i.e., 1 em) should be somewhat larger than that of the Japanese font (1 zw). The 10-point js document classes use 10 pt (about 3.5146 mm; 1 pt = 1/72.27 in for TEX and pTEX) Latin font with 13 Q (13 quarter-millimeter = 3.25 mm) Japanese font. The choice is partly derived from the fact that many Japanese books are typeset with 13 Q fonts. The original choice by the pTEX developers was 9.62216 pt (about 3.3818 mm) Japanese for 10 pt Latin. As a comparison, the default font size of Microsoft Word in the Japanese environment is 10.5 pt (1 pt = 1/72 in) for both Japanese and Latin characters.

# Improve Unicode IVS code

- ▼ I found that Unicode IVS code block only use CJK Unified Ideographs and its Extension Block A, B.
  - ▼ Submit bug and source code
    - ▼ Bugzilla: isCJKIVSCharacter needs to support CJK Unified Ideographs Extension Block C to H for Unicode15  
[https://bugs.documentfoundation.org/show\\_bug.cgi?id=155820](https://bugs.documentfoundation.org/show_bug.cgi?id=155820)
    - ▼ Code: [https://gerrit.libreoffice.org/c/core/+/152995](https://gerrit.libreoffice.org/c/core/+/)
- ▼ Reviewer found that the code block is redundancy code and refactored it
  - ▼ Code: <https://gerrit.libreoffice.org/q/topic:isCJKIVSCharacter>

# Future works

- ▼ Currently: Easily find Many of Korean bugs on LibreOffice
  - ▼ Fix more Korean and CJK issues on LibreOffice
  - ▼ Grow LibreOffice Korean community more and More
  - ▼ More translations (Wiki & UI) with Korean community
  - ▼ There's so much to do
  - ▼ + collaborate with CJK

# Q&A

- ▼ 질의응답 ( 質疑應答 )
- ▼ 質疑応答
- ▼ 問與答 / 问与答



Thank you for listening

ご清聴ありがとうございました。

들어주셔서 고맙습니다 .

▼ `sungdh86+git at gmail dot com`



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