

## Getting the hang of hangul

This is a difficult problem (it was in the team round) that is like code-breaking: but it is very satisfying when you work it out.

1. Match the words to their pronunciations.

The first part is painstaking but pretty straightforward. The obvious place to start might be the unique 3-character word (L). The transcriptions have been split into syllables, so that's a pretty strong clue: L=10. That gives you the symbols for *ja*, *jon* and *go*, so find some other words with any of these syllables: 7, 12 and 17 all end in *ja* so find three words that end with the same symbol that L starts with (note you have to decide at this point which direction Korean is written in, LtoR or RtoL?). That's A, B, and F which must have *uee*, *maw* and *jag* in them. But which is which? Unfortunately, none of these three syllables occurs in any other words. How about the two 1-symbol words, E and K? They must be *jib* and *moon* (11 and 13). *Jib* doesn't appear anywhere else, but *moon* does (in 4), so which of E and K can you find somewhere else? E is in P, so that must be *moon*. And the first symbol of P must be *chang*.

A, B and F all end with the same symbol, which is also the start of L. Can you find a syllable that has this (unique) distribution? Yes, it's *ja*, that we already looked at. And so the process of elimination continues.

Now, once you have got all the words matched with their pronunciations, you can also start looking at the individual symbols. You will have noticed that they are quite similar in some ways, and if you try grouping them in some systematic way you will soon notice (I hope) that the constituent parts of the symbols represent the consonants and vowels of the transcription. You will need to have noticed that, because the next part of the problem asks you to start constructing your own symbols from the constituent parts.

To help you visualise this, I have set out in tabular form (next page) the symbols we have seen so far.

One thing to notice is that the same symbol is used for silent consonant at the start (ie syllables beginning with a vowel) and for ng at the end: notice the ㅇ symbol in both 외 awee and 장 jang.

Out of interest, you might care to notice also the systematic relationship between the symbols for voiced and voiceless pairs b~p, j~ch and d~t: this is not coincidence and, although we don't use it in this problem, g~k is the same (compare 기기 and ki 키)!)

	ba 바	pa 파	ja 자	cha 차								
	bal 발			chan 찬		tag 탁						
			jang 장	chang 창	dang 당							
awee 외					daw 도			haw 호	law 로	maw 모	saw 소	
			ji 지				gi 기					sig 식
			jib 집									sin 신
	bo 버		jon 전			too 투	go 거			moon 문	soo 수	
uee 의												su 스

2. Write the following words in Korean.

- a. jag-un                 작은     see how jag is made up of parts of ja  
   자and tag탁
- b. nawng-jang           농장
- c. na-moo                나무
- d. gaw-mab-sub-ni-da   고맙습니다

3. How are the following words pronounced?

- a. 산                                 san
- b. 들반                              dul-ban
- c. 물고기                        mool-gaw-gi
- d. 포탁학니다                  paw-tag-hag-ni-da

Now you understand how the system works, the thing to notice in the new symbols is that there are some double letters (bb, ss, gg) and some vowel combinations (oi, yoo, yo). The double letters simply have the corresponding symbol doubled (cf. ba<sup>ㅃ</sup> and bba<sup>ㅃㅃ</sup>). The vowel oi is o+i. And the y before the vowel is shown by doubling part of the vowel symbol: compare the vowels in soo<sup>ㅟ</sup> and pyoo<sup>ㅟㅟ</sup>, go<sup>ㅝ</sup> and syo<sup>ㅟ</sup> 셔.

4. How are the following words pronounced?

- a. 가벼운                      ga-pyo-un
- b. 이때                        i-ddai or i-ddio (you can't tell which)
- c. 바꾸다                      pa-ggoo-da
- d. 가운데                      ga-oon-doi
- e. 안녕히계세요            an-nyong-hi-gyoi-soi-yaw

5. Finally, write the following names in Korean

- a. Han-goog                    한국
- b. Pyong-yang                병양
- c. Pag Ji Song                박지승
- d. A-il-lion-du                아일랜드

**So now you can read and write Korean!**