# 2010 Solutions

# (H) Ardhay Uzzlepay (1/4)

|   | Standard Minangkabau | Sorba | English Translation |
|---|---|---|---|
| a | raso | sora | 'taste, feeling' |
| b | rokok | koro | 'cigarette' |
| c | rayo | yora | 'celebrate' |
| d | susu | sursu | 'milk' |
| e | baso | sorba | 'language' |
| f | lamo | morla | 'long time' |
| g | mati | tirma | 'dead' |
| h | bulan | larbu | 'month' |
| i | minum | nurmi | 'drink' |
| j | lilin | lirli | 'wax, candle' |
| k | mintak | tarmin | 'request' |
| l | cubadak | darcuba | 'jackfruit' |
| m | mangecek | cermange | 'talk' |
| n | bakilek | lerbaki | 'lightning' |
| o | sawah | warsa | 'rice field' |
| p | pitih | tirpi | 'money' |
| q | manangih | ngirmana | 'cry' |
| r | urang | raru | 'person' |
| s | apa | para | 'father' |
| t | iko | kori | 'this' |
| u | gata-gata | targa-targa | 'flirtatious' |
| v | maha-maha | harma-harma | 'expensive' |
| w | campua | purcam | 'mix' |

# (H) Ardhay Uzzlepay (2/4)

A comparison of a-c would indicate that to form a Sorba word one takes the consonant and vowel of the last syllable, e.g. *so* from *raso*, ko from *rokok* and yo from *rayo* and one places it at the beginning of the word. If the last syllable ends in a consonant, e.g. final *k* in *rokok* then one deletes it.
So we might state the rules as:
  1. Delete the word final consonant: (*rokok > roko*)
  2. Take the final syllable (or C + V) and make it the first syllable (*roko > koro, raso > soro, rayo > yora*)

However, if we apply these rules to the following words (d-w) we fail to create the correct Sorba word. We notice that a common feature of Sorba words is that the third sound MUST BE *r*. So we need a rule which inserts *r*, unless the standard language word begins with *r*. Notice how this is requirement for a Sorba word.

As we need to stipulate that the third sound must be *r*, we must add another rule:
   Rule 3: Add *r* to initial CV unless the following sound is *r*.

Notice that we have to spell out the condition in which the rule applies (i.e. in the absence of following r), so we don't get a sequence of *r+r*

   We can see from examples h-r that our rule 1 applies.

The reduplicated words in u and v show us that each part of the reduplication must undergo the Sorba formation rules, e.g., *gata-gata > targa-targa* (NOT *targataga*). So we would need to stipulate that reduplicated words are treated like two words, and not as a single word.

Example w *campua > purcam* (NOT *puarcam* or *arcampu*). This shows us that only the initial Consonant and Vowel of the final syllable is moved to the front of the word to form a Sorba word, so that we need to modify our Rule 1. Furthermore, a word final vowel which follows another vowel is not treated as a final syllable for the Sorba formation.

   Modified Rule 1: Delete any sound which follows the final CV sequence.

So after inspection of all the words we can express the rules for converting a standard Minangkabau word into a Sorba word as:

Rule 1. Treat reduplicated words as a sequence of two identical words.
Rule 2. Delete any sound which follows the final CV sequence of a word.
Rule 3. Move the final CV sequence to the start of the word
Rule 4. If the third sound of the new word is not *r*, insert *r* (after the first CV sequence).
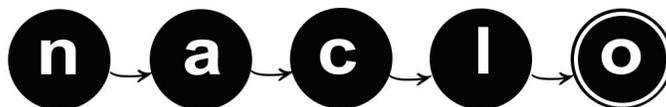
# (H) Ardhay Uzzlepay (3/4)

**H1.**

| Standard Minang-kabau | Sorba | English |
|---|---|---|
| *rancak* | caran | 'nice' |
| *jadi* | dirja | 'happen' |
| *makan* | karma | 'eat' |
| *marokok* | kormaro | 'smoking' |
| *ampek* | peram | 'hundred' |
| *limpik-limpik* | pirlim-pirlim | 'stuck together' |
| *dapua* | purda | 'kitchen' |

**H2.** We can only work back to a set of possible standard Minangkabau words because of two difficulties or problems:

'r' problem: we can't know if 'r' in *lore* was in standard word or whether it was inserted by Sorba 'r' insertion rule, e.g., standard *elo* or *relo* > Sorba *lore*

final sound problem: we can't know if standard word ends in consonant or one or two vowels or not as Sorba deletes final consonant/vowel following a vowel. *lore* could be derived from *elo, relo, eloa, reloa* or *eloC* or *reloC* where 'C' stands for any possible final consonant.

**H3.** We can see that the word formation rules for converting a Minangkabau word into Solabar are:
1. Delete the sound which follows the final CV sequence.
2. Move the final CV sequence to the beginning of the word.
3. Add *la* to the new word initial CV sequence
4. Delete the sound which follows the new final CV sequence
5. Add *r* to the word.

In converting *baso* we don't need to apply Rule 1.
We apply rule 2 > soba
We apply rule 3 > solaba
We don't need to apply rule 4.
We apply rule 5 > solabar

In converting *campua* and *makan*:
Rule 1 applies: > campu > maka
Rule 2 applies: > pucam > kama
Rule 3 applies: > pulacam > kalama
Rule 4 applies: > pulaca (doesn't apply)
Rule 5 applies: > pulacar > kalamar
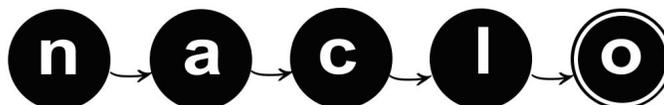
# (H) Ardhay Uzzlepay (4/4)

The Solabar equivalent of the Sorba word *tirpi* 'money' is <u>tilapir</u>.

To answer this question we need to reconstruct the form of the Standard word. Luckily for us it is given in the initial list (p.) as *pitih*. By applying our rules we get: *pitih > piti > tipi > tilapi > tilapir*.

However, if instead of assuming that rule 3. is "add *la*..." which we cannot be sure about from the data given, since the syllable following *la* has the vowel 'a' in all three words (plus *solabar*), it is possible that the rule should be add l+vowel where vowel is a copy of the following vowel. This would then open the possibility that that our answer could be *tilipir*. Now given that the final vowel of our Solabar data set only contains the vowel *a,* maybe our rules 4 and 5 should really be collapsed to a single rule: "substitute *ar* for the sound or sounds which follow the first C in the 'new' final syllable. If we applied this rule and allowed for the other two possibilities we would have to allow the possibility of getting Solabar forms: *tilipir, tilapir, tilipar, tilapar*.

In order to disconfirm the incorrect hypotheses we would need to see how a Minangkabau word such as *lilin* 'wax' forms its Solabar form. If it is *lilalir* then we know that our original rules are correct. If it is *lilalar* we know that we need to change our rules. Notice that if the final syllable were always required to end in *ar* then there is no way of distinguishing between our Rule 3 "Add *la*..." or a rule which says "Add lV where V = same as V in final syllable".

Notice that a rule which requires the final syllable to end in *ar* would make for a more complex set of rules. As our rules stand, Rules 1 and 4 are identical - they just apply at different stages in the word formation process. This would not be the case if the Solabar words had to end in *ar*; Rule 4 would be different from Rule 1.

**H4.** 'ng' is one sound because the Sorba for standard Minangkabau *manangih* 'cry' is *ngirmana*. if 'ng' were two sounds the Sorba word would begin with *g* and end in *n* by our rules. i.e., *girmanan*.

Notice that we would need to create some special specific complicated rules to get a sequence of two consonants (as opposed to two letters representing a single sound) at the beginning of this Sorba word and to exclude them for other words, e.g., how would we prevent *mintak* from being coverted to Sorba *ntarmi* rather than the correct *tarmin?*

We are always looking for the simplest solution or explanation to account for the facts we observe.