Assignment 3: Tagalog vowel alternations
Due Wed 23 Feb, 2005

0. Background

In native Tagalog words, the distribution of mid/high vowels is, to a certain extent, predictable.
The list in (1) shows the possible combinations of final and non-final vowels in monomorphemic
roots: (ignore stress/length)

(1) Distribution of vowels in native words

a.	bisig	'arm'
b.	bigát	'burden'
c.	bí:log	'circle'
d.	banil	'dirt on the neck'
e.	da:le	'denunciation'
f.	barák	'pale'
g.	baŋó	'aroma'
h.	bu:kid	'farm'
i.	bu:lak	'cotton'
j.	bu:ko	'young coconut, flower bud'

The combinations CiCeC and CuCeC are also supposed to be possible, though I was unable to
find any in a quick look through the dictionary (this may or may not be significant)
Start by sketching a constraint ranking that captures this distribution. It need not be fancy or
insightful; just use markedness constraints that ban certain classes of vowels in certain positions.

1. Alternations under suffixation

The restriction on possible vowels in non-final syllables can lead to alternations when words are
suffixed: (Tagalog has just two suffixes, *-in* and *–an*, which take the form *–hin*/*–han* after vowel-
final roots; verbs with *–in* have object focus)

(2) Alternations under suffixation

a.	ká:los	'grain leveler'	kalú:s-in	'to use a grain leveler'
a.	ʔabó	'ash'	ʔabu-hín	'to clean with ashes'
a.	babá:ʔe	'woman'	ka-babaʔí:-han	'womanhood'
a.	sisté	'joke'	sisti-hín	'to joke'
a.	kumót	'sheet'	kumut-án	'to cover with a sheet'
a.	kaʔón	'gofer'	kaʔunín	'to fetch'

There are some exceptions, however. One class of exceptions involves words like those in (3), in
which native words maintain their mid vowels even when suffixed:

(3) Failure to alternate under suffixation (native words)

a.	dé:de	pa-dedé:-hin	*pa-dedí:-hin	'give a baby a bottle'
a.	totoʔó	totoʔó:-hin	*totoʔú:-hin	'to be sincere'

A larger class of exceptions comes from loanwords from Spanish and English. On the whole, loanwords do undergo the vowel alternations as expected:

(4) Loanwords that alternate as expected

a.	sabón	'soap'	sabun-ín	'put soap on'
a.	pulsó	'pulse'	pulsu-hán	'feel someone's pulse'
a.	karí:njo	'fondness'	karinju-hín	'show affection'
a.	kapé	'coffee'	kapí-han	'coffee-pot'
a.	nú:lo	'null'	nulu-hín	'to annul'
a.	dibú:ho	'drawing'	dibuhu-hán	'to embroider'
a.	ʔelá:do	'frozen'	ʔeladu-hín	'to put on ice'
b.	dibélop	'develop'	dibelup-ín	'to develop (film)'
c.	depósito	'deposit'	depositu-hán	'to put a deposit on'
d.	dibórsiyo	'divorce'	diborsiyu-hán	'to divorce'
e.	gástos	'expenses'	gastus-án	'to spend money'
f.	tsaperon	'chaperone'	tsaperun-án	'to chaperone'
g.	pré:myo	'prize'	premyu-han	'award a prize'
h.	dó:ble	'double'	dobli-hín	'to double'

However, a sizeable number of loanwords do not alternate when suffixed—or, in some cases, optionally allow both alternating and non-alternating variants.

(5) Failure to alternate under suffixation (loanwords)

a.	tó:do	'all'	todo-hín	'to include everything'
b.	tóno	'tone'	tono-han	'to jibe'
c.	tonto	'stupid, silly'	ka-tonto-han	'stupidity'
d.	piló:to	'pilot'	piloto-han	'to steer/pilot'
e.	abó:no	'fertilizer'	abono-hán	'to fertilize'
f.	kopon	'group of people with similar tastes'	kopon-an	'team'
g.	dóktor	'doctor'	doktor-ín	'to doctor'
h.	demó:nyo	'devil, demon'	demonyu-hín ~ demonyo-hín	'persecute'
i.	bé:to	'veto'	betu-han ~ beto-han	'to veto'

Develop an analysis that explains why the words in (4) alternate, but those in (3) and (5) do not.

Hints for part 1:

- Focus first on (5a-g), trying to determine what property (or properties) might protect them from the vowel alternation.
- Only after you have an idea for (5a-g), go on to (5h-i). These last two forms are difficult, since they are so similar to (4l-n)—the possible difference between them is subtle. The full set of constraints needed to capture this effect is also quite large—don't sweat the details about every single dimension of faithfulness. Just use a cover constraint 𝓕 as shorthand for the faithfulness constraints that seem to be at work here
- Leave aside the free variation data for now; come back to it only if you have time

2. Exceptional roots

In contrast to the general pattern in (1), there is a handful of native monomorphemic words that contain "illegal" vowel combinations, shown in (6):

(6) Monomorphemic roots with unexpected vowels

a.	totoʔó	'true'
b.	kató:to	'comrade'
c.	bohól	(type of shrub)
d.	goŋgoŋ	'gruntfish'
e.	bako:ko	(type of fish)
f.	de:de	'baby bottle'
g.	me:me	'beddie-bye'
h.	he:lehé:le	'pretence of not liking'
i.	ʔó:ʔo	'yes'
j.	kó:kok	'rooster crow'
k.	keŋkéŋ	'sound made by beating frying pan'
l.	né:neʔ	(affectionate term for calling a little girl)
m.	ké:rwe	'cricket'
n.	lé:teŋ	'cord'
o.	ké:toŋ	'leprosy'
p.	té:pok	'victimized by hooligans'
q.	hé:to ~ ʔé:to	'here it is!'

The list in (2) is a close to exhaustive list of the exceptions—so although the generalization in (1) is exemplified with just a few forms, the number of words that obey it far outweighs the number of exceptions.

To what extent can your analysis in part 1 be extended to handle these exceptional cases?

Hints for part 2:
- Don't worry about trying to make your analysis predict every single exceptional form.
- Simply describe the intuition behind why the words in (6) are exceptional, and show how your constraints could capture the effect
- Some of the words in (6) are more amenable to analysis than others. (They are included for completeness, and scientific honesty) It is likely that your analysis will not work equally well for all of these words; just make a note of the recalcitrant cases and move on