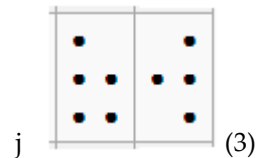
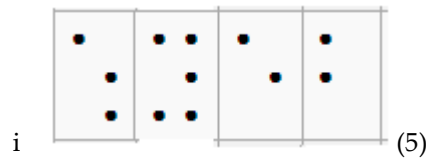


Question A: Tenji karaoke (20 points)

- a haiku (1)
- c katana (1)
- e koi (1)
- g karate (3)

- b sake (1)
- d kimono (1)
- f atari (1)
- h anime (3)



a-f: 1 mark right or wrong

g, h: 1 mark for each syllable: ka-ra-te, a-ni-me

i, j: 1 mark for each symbol, +1 if all correct

Question B: Nok-nok! (10 points)

Misspelling of "typo"	Comment by tutor			
	Almost right	Quite close	A bit confusing	Very confusing
oooo			X	
opyt				X
pyto		X		
typ	X			
typa	X			
typotypo				X

1 ½ marks for each right answer, bonus 1 mark if all correct

½ mark for any answer which is one cell off the right answer

Question C: Letters for Cuzco (20 points)

C1. They never occur in the same environment (**1 mark** for saying this)

[q] occurs syllable-initial, [χ] syllable-final (**1 mark** for saying what the environments are)

So you can use one symbol for both: the position tells you how to pronounce it. (**1 mark** for saying this)

C2. [a] and [i] *do* occur in similar environments or minimal pairs (**1 mark**)

For example karu~kiru or qasa~qasi are minimal pairs (**1 mark** for giving an example)
 So you have to use a different symbol to distinguish otherwise identical words (**1 mark**)

C3. [a] and [e] occur in similar environments (**1 mark**)

Example: saqey~seqay (**1 mark**)

would be written the same if a=e (**1 mark**)

[Since C2 and C3 have the same reasoning, give credit if they just give the example]

C4. Previous answers show you need a~e~i (**1 mark**)

We can't merge a~u (kisa~kisu, kanka~kunka) (**1 mark**)

We can't merge a~o (qasa~qosa) (**1 mark**)

We can't merge i~u (kisa~kusa) (**1 mark**)

So which sounds *can* be merged? e/i and o/u could be merged or e/u and o/i (**1 mark** for either, **1 mark** for both)

There are no minimal pairs for these, so merging will not cause confusion (**1 mark**)

e and o occur when next to q and χ, i and u elsewhere (**2 marks**)

given pairs *qelqay* ~ *qelqaχ*, *qatuy* ~ *qatoχ*, and *sipiy* ~ *sipeχ*, o/u and e/i is the better or more likely of the possible solutions. (**1 mark** for noticing the pattern and **1 mark** for correctly deducing the right phonemicization). Alternatively, **2 marks** for any argument based on phonetic similarity, eg o/u rounded, e/i spread, or front~back.

Question D: You will be laughing (25 points)

(a) I was eating

(b) He will be waking up

(c) I will not be taking

(d) You are not crying

(e) I was not catching

2 marks each, ½ each for pronoun, tense, negation and verb

Bonus **1 mark** if all correct

(f) ne-pe-mbokapu-i (**4 marks**)

(g) ndo-purahei-ri (**3 marks**)

(h) ja-karu-ta (**3 marks**)

(i) nda-purahei-mo'āi (**3 marks**)

Bonus **1 mark** if all correct

Question E: Help my camera! (5 points)

E1. it , him , them (**2 marks** for all 3, **1 mark** if one is wrong, **0** otherwise)

E2. Take the last noun phrase from the previous sentence (**1 mark**)

E3. Any of the following: (**2 marks** for any one answer)

Use gender and number agreement, look for a pronoun that agrees with the thing it is referring to. (**1 mark** for "agreement", **1** for mentioning number and/or gender. Don't need to use these terms, but must show both ideas).

Or: Interpret pronouns as referring to previous sentence's first NP.

Or: Interpret pronouns as referring to previous sentence's subject.

Or: Interpret pronouns occurring in structure that parallels first sentence.

Or: any other solution that works for all three examples!

Question F: Yak, Du, Dray (25 points)

1	2	3	4	5	6	7	8	9
D	E	H	B	C	A	G	F	

(16 marks: 2 for each right answer except the blank)

F2. 1 mark for each of these

- closer connections among neighbouring languages
- consonants more likely to be preserved
- pronunciation may not match spelling
- specific phonological changes, e.g., s-sh, c-p,
- specific patterns for numerals, e.g., 9 starts with N, 4 has T+R in the middle
- use of the title of the problem (yak=1, du=2, dray=3)
- use of the equation
- use of the constraints imposed by the subtractions
- the form for the number 1 changes the most

Question G: Sk8 parser (15 points)

G1. Inverted-Atomic-Backside-360

423T14CS423T14C33 (1 mark)

G2. Atomic-Atomic-Ollie

SXS4SX3S4SXS4SX33 (1 mark)

G3. Fill in the blanks in the table (8 marks)

a 1 4 C

b X S

c Wollie

d 23T14T or Backside-180 Frontside-180

e 4423T14C or Crouch 23T14C

f 3 α 4

g Inverted α

h α S 4 α 3 or α S Inverted α 3

G4.

Quadruple α = double α S double α = α Sa Sa Sa

But system recognizes a triple α when it gets to the 3rd α

You could fix it by having a different rule for quadruple that recognizes a reiple followed by a single: Quadruple α = triple α S α

Or: a different symbol between the two doubles, or a completely different parenthetical symbol sequence X α Y.

(1 mark for problem, 1 mark for a valid fix ... others may be acceptable)

G5. (3 marks)

Any move that starts with a 4 cannot be inverted, because the 44 would be interpreted as a crouch.

Similarly, a Double-Nollie is logically possible X S S X S but would be interpreted as Nollie-Ollie.

In general any combination which starts the same as another complete combination will never be recognised.

Question H: Linear Combinations (15 points)

H1. Knossos

Amnisos

Phaistos

Tulisos

Kudonia

Aptarwa

Luktos

Utanos

Kuprios

Kunari

(½ mark each: total 5)

H2. Kunari – Tuniya (½ mark each)**H3. see right: ja/jo OK for ya/yo**

marks as follows:

1-3 right = 1 mark

4-7 right = 2 marks

𐀀	A
𐀁	do
𐀂	i
𐀃	ya
𐀄	yo
𐀅	ki
𐀆	ko
𐀇	ku
𐀈	mi
𐀉	ni
𐀊	no
𐀋	pa
𐀌	pi
𐀍	ri
𐀎	ru
𐀏	so
𐀐	ta
𐀑	to
𐀒	tu
𐀓	u
𐀔	wa

7-11 right = 3 marks

12-16 right = 4 marks

17-20 right = 5 marks

All right = 6 marks

H4. Kowa

Pata

Toso

Kumino

Rino (lino)

(1-2 right = 1 mark; 3-4 right = 2 marks; all right = 3 marks)

Question I: Easy pieces (10 points)

I1. Three rules govern the formation of the plural of the adjectives. What are they?

1. Add **-i** for plural if singular ends in stressed **-en (2 marks)**
2. If the adjective indicates from what matter the noun is made, then just add **-i (2 marks)**
3. Otherwise drop the final **-e** and add **-i (1 marks)**

I2. (1 mark each. Ignore irrelevant spelling errors)

19 obiknovēni

20 lēsni

21 rībni

22 kōstni

23 lēneni

Question J: Hypo-Hmong-driac (15 points)

28 be lost

17 beef

6 beverage

15 bovine livestock

13 chicken (the animal)

10 dog (the animal)

12 filthy animals; filth

23 filthy language

18 flesh; meat

32 hurt

3 internal organs; soul

24 language

1 liver (the organ)

16 livestock

25 lose heart ("liver"); lose one's wits; panic

27 lose life to water; drown
 26 lose money ("silver")
 2 lungs
 8 money
 14 small, non-bovine livestock
 11 pig (the animal)
 22 poetic genre ("money-language")
 7 silver
 30 suffer from a headache ("brain-ache")
 29 suffer from grief ("liver-ache")
 31 suffer from lung disease ("lung-ache")
 4 water
 21 water-buffalo liver
 9 wealth
 5 whisky
 20 young female
 19 young sow

Mark scheme: There are 32 answers, so **15 for complete solution, lose ½ mark for each wrong answer down to a minimum of 0.**

Question K: Some words from down under (10 points)

K1. How are Dyirbal words and sentences formed?

Verb is final (**1 mark**)

SOV when subject is pronoun, otherwise OSV (**1 mark**)

'the' = *bayi* but = *baṅgul* with subject of transitive verb (**1 mark**)

1 mark for any other pertinent observation

K2. The boy returned
 The kangaroo woke the man
 You saw the kangaroo
 (**1 mark each**)

K3. ṇinda ṇinaṇu
 ṇaḍa bayi yuṛi ṇiman
 bayi yaṛa baṅgul ṇumaṅgu walmbin
 (**1 mark each**)

Question L: Summer eyes (20 points)

Story 1: **Powerful earthquake strikes Taiwan**

E1. Change the figures in sentences 2 and 5

Sentence Number	Criteria						Total score	Sentence
	1st	2nd	3rd	4th	5th	6th		
2	2.3	0	0	0	0	-1	1.3	There were no immediate reports of damages or injuries from the Tuesday morning quake, authorities said.
			1		1		2.3	
5 X	0.0	3	1	0	1	-1	4.0	Buildings shook in Taipei about 90 miles (150 kilometers) to the northwest of the epicentre.
			0				3.0	

Story 2: **Interior minister of Mexico dies in plane crash that killed eight**

All the sentences get changed

Sentence Number	Criteria						Total score	Sentence
	1st	2nd	3rd	4th	5th	6th		
1 X	3.8	0	1	7	0	-3	8.8	Mexico's interior minister has died in a plane crash, after the small aircraft he was travelling in plummeted into rush hour traffic in the nation's capital.
	3.9						8.9	
2	2.7	0	1	1	1	-1	4.7	He was one of the architects of conservative Felipe Calderón's 2006 election victory.
	2.8						4.8	
3	1.6	0	2	1	1	-2	3.6	Calderón described Mouriño as "a compatriot who worked for the service of his county."
	0.6						2.6	
4	0.5	0	1	3	1	-1	4.5	Jose Luis Santiago Vasconcelos, the deputy attorney-general until recently and a key player for years in the war on drug cartels, also died in the crash.
	0.4						4.4	
5 X	0.4	0	3	2	3	-3	5.4	Communications minister Luis Tellez said everything pointed to the crash being an accident but Jorge Lara, vice-president of a national civil aviation rescue committee, told Reuters "It could have been anything, from mechanical failure to sabotage."
	0.3				2		4.3	

6	0.3	0	1	3	0	-4	0.3	A colleague of Lara at the scene said it appeared something happened to the plane in the air and it nosedived into the ground.	
	0.2						0.2		
7	0.2	1	0	0	0	-1	0.2	Surrounding buildings were not damaged.	
	0.1						0.1		
8	0.1	2	2	2	2	-3	5.1	Newspaper El Universal reported an air traffic controller as saying the aircraft had been coming in to land at Mexico City's airport when it hit the ground between tall office buildings.	
	0				1		4.0		
9	X	0.0	3	2	4	1	-3	7.0	Tellez said there was no contact with the plane, which had been returning from a trip to the central city of San Luis Potosí, in the moments before the crash.

E3.

n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Seven other people were killed and 40 injured when the government jet smashed into the streets of Mexico City yesterday, setting several cars ablaze, Reuters reported.
	1.7	0	2	3	2	-4	4.7	

Question M: Orwellspeak (15 points)

Part 1. Opposites Attract

M1. Revise the following grammar of English so that it does not permit false **Sentences**. Your revised grammar systematically enforce the principle that opposites (and only opposites) attract. Please show your revisions directly on the grammar, using the same notation, by adding new rules and by crossing out or otherwise modifying some of the old rules.

NounPhrase must be marked for good/bad, either by adding features, or by splitting it into four rules:

goodNP -> N

badNP -> N

goodNP -> goodAdj + goodNP

badNP -> badAdj + badNP

then Sentence rule can show opposites attract

S -> goodNP + V + badNP

S -> badNP + V + goodNP

There may be other ways of doing it.

Part 2. Censorship

M2. The vendor's device has been carefully constructed to censor as many illegal utterances as possible while not censoring any legal ones. What is the shortest possible list of bad phrases that will do this? Write out a summary of the phrases on the list, and be sure to give the total number of phrases.

M3. Does the resulting device ever fail to censor an illegal utterance? If so, give an example.

M4. Suppose the government tightens its grip, and requires that the vendor modify its machine to censor ALL illegal utterances (even if this means censoring some legal ones as well). What is the shortest possible list of bad phrases that meets this new requirement?

To grade Orwellspeak for your own contest, it'll be easiest to just look at the attached (anonymized) spreadsheet and read the Python code description in the postscript. The description, for the curious, of the rubric is below. (Letters in parentheses are spreadsheet columns.)

M1 (2 points):

(P) The new grammar produces some correct sentences. (Most common way to lose points: NP - A NP, but no NP - A N.)

(Q) After minimally correcting P if necessary (e.g. by adding NP - A N), the grammar would generate all the correct sentences. (This is intended to catch

people who didn't understand polarity; almost no one missed it.)
 (R) The new grammar produces no incorrect sentences. (Most common way to lose points: NP - N)
 1 point each, minus 1. (min 0)

M2 (8 points):

(S) Their count of their rules
 (T---from Python) The actual number of their rules
 (U---from Python) The number of test utterances from the following list of 40 bad utterances correctly censored: SNVBBBE SNVGGNE SVBNE SVGGGGNE SE SE SGGGVBBNE SBVGNE SGGNVBE SBNVGE SGNGNVBNE SBNGNVBNE SGGNNVBBNE SGNVBNNE SGGNVVBNE SBNVGGNE SGGNVNE SBNVNE SGGNVE SBNVE SGNVBNVGNE SBBNVGNVBBNE SBNVGNVBNVGNVBNE SBBBNNVGNVBBBNE SBNVGNVBNE SGNVBBNVGNVE SGNE SGNE SGNE SBNE SBNE SBNE SGBNVGNE SBBGGNVBBNE SGNVBBGNE SBNVGBBBNE SGNVGNE SBNVBNE SGGNVGGNE SBBNVBBNE
 (V---from Python) The number of test utterances from the following list of 14 good sentences incorrectly censored: SGNVBNE SGGNVBBNE SGNVBBNE SGGGNVBBBNE SGNVBBNE SGNVBNE SBBNVGGNE SBNVGNE SBBBNNVGNE SBNVGGGNE SBBBNNVGGGNE SBBBNNVGNE SBNVGGGGNE SBBNVGGNE
 (W---from Python) The number of their rules that are subsets of another of their rules, after splitting into good and bad adjectives.
 (X---feed into Python) Their actual list of rules.

Anyway, the score for M2 is: a quarter point for each correctly censored sentence, minus half a point for each incorrectly censored sentence more than 8, minus half a point if they miscounted or didn't count their rules, minus half a point for each redundant rule. Min 0.

M3 (2.5 points):

(Y) 1 point for realizing that there are uncensored sentences, that is, for just about any affirmative answer.
 (Z) 1.5 points for giving an actually uncensorable answer. (I'm shocked by how many people said "It fails to censor anything containing the phrase VV" or equivalent.)

M4 (2.5 points):

(AB) 1.5 points if they managed to censor everything bad, or .75 if they got everything but the null sentence (e.g. the set N, V, A)
 (AC) 1 point if they used only one rule; .5 if they used at most 10 (e.g. "SE, SN, SV, SA")

Additional adjustments for proving M3 was uncensorable (+1), using incorrect (longer-than-4) rules in M2 or having unenterable and incorrect ones like "A_i A_i A_i" (-1), or having a debilitating possible typo in their rules (calculate the score without the typo, give sympathy points equal to about half of what they lost.)

-Adam

(T, U, V, and W can be found automatically from X by the attached Python script. Just record their rules using only the letters V(erb), N(oun), A(djective), G(ood adjective), B(ad adjective), S(tart), and E(nd) (for instance, you'd write the correct answer as "SV SN SE AV AE NN NA VN VE VV GB BG BNVB GNVG SANE VANV"), then use the attached python script. That is, save the attachment as gradeOrwell.py, open Python from the same directory, and type:

```
import gradeOrwell
from gradeOrwell import grade
grade('rules string')
for entry in '''(copy-paste a column of rules)'''.split('/n'):
    grade(entry)
```

The "grade..." line is for grading one entry; the stuff following is for grading a whole column of entries, e.g. from an spreadsheet.)

