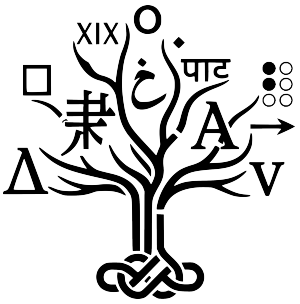
International Linguistics Challenge

Pre-Final Round

2025 Edition

Pre-Final Round



Problems

The ILC Pre-Final Round consists of analytical problems which require logical reasoning about language and its patterns.

You can score a maximum of 18 points in total. To qualify for the Final Round, you must score at least 8/10/12 points.

Your Solution

You must provide written answers for all problems. You may submit handwritten or typed solutions.

Instructions

- You have a limited time to complete this exam.
- Read each problem carefully before answering.
- Show your work and reasoning for full credit.

We hope you enjoy tackling the problems. Good luck!

Problem A: Agreement in German and Urdu (4 Points)

In this problem set, we will look at agreement in two languages, German and Urdu, and see how it interacts with case.

Agreement is a syntactic relationship which requires two syntactic units to agree, that is, have at least one syntactic feature in common, as you have already discovered in the Qualification Round. Many of the world's languages require some type of agreement between the verb and one (or more) of its arguments (i.e. subject, object).

Case is a grammatical feature (like number or gender) used in some languages to distinguish the grammatical functions, such as subject/object, of noun phrases within a sentence. Case affects agreement in some languages.

In English, case is seen in the morphological form of pronouns. For example, the third person masculine pronoun has the form *he* in subject position, as in *He saw the man*, and the form *him* in object position, as in *The man saw him*. Using these forms in the opposite positions is ungrammatical, as in **Him saw the man* or **The man saw he*.

German is one such language where case marks the grammatical role of a noun (i.e. subject, object) and is seen in the morphological form of determiners in the noun phrase. Subjects have nominative case, while objects have accusative case. Case does not affect agreement in German.

Glossing Abbreviations:

ACC	ERG	F	M	N	NOM	PL	SG
accusative	ergative	feminine	masculine	neuter	nominative	plural	singular

(1) Der Mann koch-t die Orange.
The.M.SG.NOM man.M.SG cook-SG the.F.SG.ACC orange.F.SG
'The man cooked the orange.'

(2) Der Mann koch-t die Äpfel.
The.M.SG.NOM man.M.SG cook-SG the.M.PL.ACC apples.M.PL
'The man cooked the apples.'

(3) Die Frauen koch-en den Apfel.
The.F.PL.NOM women.F.PL cook-PL the.M.SG.ACC apple.M.SG
'The women cooked the apple.'

(4) Die Kinder koch-en die Orange.
The.N.PL.NOM children.N.PL cook-PL the.F.SG.ACC orange.F.SG
'The children cook the orange.'

(5) Das Kind koch-t die Eier.
The.N.SG.NOM child.N.SG cook-SG the.N.PL.ACC eggs.N.PL
'The child cooks the eggs.'

(6) Die Frau koch-t das Ei.
The.F.SG.NOM woman.F.SG cook-SG the.N.SG.ACC egg.N.SG
'The woman cooks the egg.'

(7) Die Männer koch-en die Orangen.
The.M.PL.NOM men.M.PL cook-PL the.F.PL.ACC oranges.F.PL
'The men cook the oranges.'

(a) Look at the German sentences in 1-7. Describe the verbal agreement system in German, using examples from the dataset to support your answer.

Urdu also has case. Subjects have either nominative or ergative case, while objects have either accusative or nominative case. Case does affect agreement in Urdu.

(8) aadmi seb pakaey-ga
man.M.SG.NOM apple.M.SG.NOM cook-will.M.SG
'The man will cook the apple.'

(9) aadmi-ne mosambi pakaii
man.M.SG-ERG orange.F.SG.NOM cooked.F.SG
'The man cooked the orange.'

(10) auratein seb pakaeyn-gi
women.F.PL.NOM apple.M.SG.NOM cook-will.F.PL
'The women will cook the apple.'

(11) aurat-ne mosambi-ko pakaya
woman.F.SG-ERG orange.F.SG-ACC cooked.M.SG
'The woman cooked the orange.'

(12) bacha mosambiyan pakaey-ga
child.M.SG.NOM orange.F.PL.NOM cook-will.M.SG
'The child will cook the oranges.'

(13) bachon-ne mosambiyon-ko pakaya
children.M.PL-ERG orange.F.SG-ACC cooked.M.SG
'The children cooked the oranges.'

(14) aadmi-ne anday pakaey
man.M.SG-ERG eggs.M.PL.NOM cooked.M.PL
'The man cooked the eggs.'

(b) Look at the Urdu sentences in 8-14. Describe the verbal agreement pattern in Urdu. (Note: Do not describe the verbal morphology, only what the verb agrees with.)

Problem B: Problem B – Phonology of English Past Tense (6 Points)

In this problem set, we will look at the phonology of the English past tense.

The pronunciation of a given phoneme can vary considerably depending on the environment it occurs in. In other words, the pronunciation of any given phoneme depends on the sounds that come before and after it in each context.

Many linguists believe that speakers store one phonological form in the mental lexicon, along with phonological rules which determine how the morpheme will be pronounced in a given environment. This is considered to be more efficient for memory than, for example, storing multiple possible pronunciations as separate lexical entries with duplicate meanings.

Here is a list of English verbs and their phonological forms.

	Present		**Past**	
1.	beg	[b g]	begged	[b gd]
2.	wait	[we t]	waited	[we t d]
3.	walk	[w k]	walked	[w kt]
4.	clean	[klin]	cleaned	[klind]
5.	tie	[ta]	tied	[ta d]
6.	laugh	[l f]	laughed	[l ft]
7.	need	[nid]	needed	[nid d]
8.	play	[ple]	played	[ple d]
9.	add	[æd]	added	[æd d]
10.	rub	[r b]	rubbed	[r bd]
11.	end	[nd]	ended	[nd d]
12.	hope	[ho p]	hoped	[ho pt]
13.	buzz	[b z]	buzzed	[b zd]
14.	scream	[skrim]	screamed	[skrimd]
15.	kiss	[k s]	kissed	[k st]

(a) Look at the alternations in 1–12. List all phonological alternations of the past tense marker.

(b) Describe the distribution of each phonological alternation of the past tense marker. Use the IPA chart below to define the environments in terms of phonetic features.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Plosive	p b			t d			k	
Nasal	m			n			ŋ	
Affricate					t d			
Fricative		f v	ð	s z				h
Approximant	w					j		
Lateral Approximant				l				

Hint: List all sounds that appear before each alternation of the past tense marker. Then find the common phonetic feature between those sounds on the IPA chart to define an environment.

Here are some more English verbs and their phonological forms.

	Present		**Past**	
16.	keep	[ki p]	kept	[k pt]
17.	feel	[fi l]	felt	[f lt]
18.	hear	[h ər]	heard	[h rd]
19.	lose	[lu z]	lost	[l st]
20.	leave	[li v]	left	[l ft]
21.	mean	[mi n]	meant	[m nt]
22.	say	[se]	said	[s d]
23.	dream	[dri m]	dreamt	[dr mt]
24.	choose	[t u z]	chose	[t e z]

(c) Do the verbs in 16–24 follow the same phonological rules as the verbs in 1–15? Explain your answer.

Problem C: Problem C – Research Paper (8 Points)

Use the content of the article to work on the problems below: ”English Speakers Can Infer Pokémon Types Based on Sound Symbolism” by Kawahara Shigeto, Godoy Mahayana C & Kumagai Gakuji (2021). Frontiers in Psychology.

(a) Define using your own words *thesis of arbitrariness* and *sound symbolism*.

(b) Give two advantages of studying Pokémonastics according to Kawahara et al.

(c) Which three sound symbolic connections did Kawahara et al test?

(d) What was the key difference in the experimental design of Experiments 1 and 2?

(e) Kawahara et al did not observe a robust effect of the [p]=fairy connection in Experiment 1. What are the three possible explanations they give for this?

(f) What did Kawahara et al’s examination of the real English names of Pokémon show?

(g) Consider the types of semantic properties which other works have shown to be signaled via sound symbolism: size, shape, colour, brightness, taste, weight and strength. How do these compare to Pokémon type? What implications, if any, are there for Kawahara et al’s study?