

El parser no trabaja con un vocabulario abierto, sino con un **léxico reducido y controlado** definido en el archivo **en\_lexicon.py**.

Solo las palabras incluidas en ese léxico pueden aparecer en las oraciones de prueba; cualquier palabra fuera de la lista provoca un **LexicalError**.

## 1. Guía rápida para crear oraciones de prueba

Con este vocabulario, se puede construir oraciones válidas/ inválidas siguiendo estos patrones:

### Patrones básicos válidos

1. **NP(SG) + V(SG)**
  - the boy runs
  - that student eats
  - family works
2. **NP(PL) + V(PL)**
  - boys run
  - the dogs eat apples
  - these students read the books
3. **PRON + V**
  - he runs
  - they work
  - we drink water
4. **NP + V + NP**
  - the dog eats the apple
  - the students read books
  - the boy likes the city
5. **NP + V + PP**
  - students work in the school
  - the boys play in the room
  - we live in the city

### Patrones diseñados para producir errores

- **Error determinante–sustantivo**
  - this students work

- these boy runs
- **Error sujeto–verbo**
  - the boys eats
  - family eat
  - we drinks water
  - that student see the teacher
- **Error de bare noun (singular contable sin determinante)**
  - book eats
  - the cat plays ball

A continuación se listan **todas las palabras** incluidas en el LEXICON, organizadas por categoría gramatical y con notas sobre su uso dentro del parser.

Columnas usadas:

- **Palabra:** forma en texto tal como debe escribirse.
- **Cat:** categoría gramatical usada por el parser (DET, N, PRON, V, ADJ, PREP, AUX, COMMA).
- **Num:** rasgo de número:
  - SG = singular
  - PL = plural
  - SGC = singular contable
  - UNC = incontable
  - COLL = colectivo
  - ANY = indiferente

## 2. Elemento de sincronización

Palabra	Cat	Num	Uso típico
,	COMMA	ANY	Coma, usada como marcador de sincronización en el parser

### 2.1 Determinantes (DET)

Se usan para introducir **sintagmas nominales** con sustantivos contables (NP → DET AdjList N).

Palabra	Cat	Num	Uso típico
the	DET	ANY	Determinante definido (singular/plural)
a	DET	SG	Singular contable (antes de consonante)
an	DET	SG	Singular contable (antes de vocal)
this	DET	SG	Singular (“este/esta”)
that	DET	SG	Singular (“ese/esa”)
these	DET	PL	Plural (“estos/estas”)
those	DET	PL	Plural (“esos/esas”)

### Regla de concordancia en el parser

- El **número del determinante** debe coincidir con el del sustantivo:
  - valid: this student, these students, that book, those cars
  - invalid: this students, these student, those book, etc.

## 2.2 Pronombres personales (PRON)

Pueden funcionar como sujeto directamente: NP → PRON.

Palabra	Cat	Num	Comentario
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i	PRON	PL	Tratado como plural para concordar con verbos en forma base
you	PRON	PL	Considerado plural ("you run")
we	PRON	PL	Plural ("we run")
they	PRON	PL	Plural ("they run")
he	PRON	SG	Singular ("he runs")
she	PRON	SG	Singular ("she runs")
it	PRON	SG	Singular ("it runs")

### Regla del parser

- Pronombres **PL** se combinan con verbo en forma base (V, PL):
  - valid: we run, they eat, you work
- Pronombres **SG** se combinan con verbo en -s (V, SG):
  - valid: he runs, she eats, it works

## 2.3 Sustantivos (N)

### Tipos según "contabilidad":

- SGC (singular contable): no se acepta como NP → N "desnudo" (sin determinante).
- PL (plural): puede ir sin determinante.
- UNC (incontable): puede ir sin determinante.
- COLL (colectivo): aceptado sin determinante.

### Reglas clave del parser

- NP → N **solo se acepta** si N es:
  - PL, UNC o COLL.
- Ejemplos:
  - valid: dogs run, water flows, family eats
  - invalid: book eats, ball is on table (aquí falta determinante: the ball, a book)

### 2.3.1 Personas

Palabra	Cat	Num
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man	N	SGC
-----	---	-----

men	N	PL
-----	---	----

woman	N	SGC
-------	---	-----

women	N	PL
-------	---	----

child	N	SGC
-------	---	-----

children	N	PL
----------	---	----

boy	N	SGC
-----	---	-----

boys	N	PL
------	---	----

girl	N	SGC
------	---	-----

girls	N	PL
father	N	SGC
mother	N	SGC
friend	N	SGC
friends	N	PL
student	N	SGC
student s	N	PL
teacher	N	SGC
teacher s	N	PL
people	N	PL
family	N	COLL
group	N	COLL

### 2.3.2 Objetos concretos

Palabra	Cat	Num
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car	N	SGC
-----	---	-----

cars	N	PL
------	---	----

house	N	SGC
-------	---	-----

houses	N	PL
--------	---	----

room	N	SGC
------	---	-----

door	N	SGC
------	---	-----

table	N	SGC
-------	---	-----

book	N	SGC
------	---	-----

books	N	PL
-------	---	----

apple	N	SGC
-------	---	-----

apples	N	PL
--------	---	----

ball	N	SGC
------	---	-----

dog	N	SGC
-----	---	-----

dogs	N	PL
------	---	----

cat	N	SGC
-----	---	-----

cats	N	PL
------	---	----

job	N	SGC
-----	---	-----

jobs	N	PL
------	---	----

### 2.3.3 Lugares y entidades

Palabra	Cat	Num
---------	-----	-----

school	N	SGC
--------	---	-----

city	N	SGC
------	---	-----

cities	N	PL
--------	---	----

home	N	SGC
------	---	-----

country	N	SGC
---------	---	-----

company	N	SGC
---------	---	-----

system	N	SGC
--------	---	-----



program	N	SGC
---------	---	-----

state	N	SGC
-------	---	-----

place	N	SGC
-------	---	-----

case	N	SGC
------	---	-----

number	N	SGC
--------	---	-----

night	N	SGC
-------	---	-----

world	N	SGC
-------	---	-----

part	N	SGC
------	---	-----

hand	N	SGC
------	---	-----

question	N	SGC
----------	---	-----

fact	N	SGC
------	---	-----

#### **2.3.4 Abstractos, incontables y otros**

<b>Palabra</b>	<b>Cat</b>	<b>Num</b>
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time	N	UNC
------	---	-----

work      N      UNC

food      N      UNC

water      N      UNC

money      N      UNC

childhood      N      UNC

## 2.4 Verbos principales en presente simple (V)

El léxico distingue dos formas:

- **Forma base** (sin -s) → etiquetada como ( "V" , "PL" )
- **Forma en -s** → etiquetada como ( "V" , "SG" )

Esto se alinea con la regla de inglés:

- Sujetos **PL** (we, they, the boys, people) → verbo **PL**
  - they run, the boys eat
- Sujetos **SG** (he, she, it, the boy) → verbo **SG**
  - he runs, the boy eats

### 2.4.1 Verbo *be*, *have*, *do*

Palabra	Cat	Num	Uso
am	V	PL	Usado con "I" (tratado como "PL" para concordancia interna)
are	V	PL	Usado con sujetos plurales (you, we, they)

is	V	SG	Usado con sujetos singulares (he, she, it, the boy)
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have	V	PL	Forma base
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has	V	SG	3ª persona singular
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do	V	PL	Forma base
----	---	----	------------

does	V	SG	3ª persona singular
------	---	----	---------------------

## 2.4.2 Otros verbos PL/SG

Tabla de pares (PL → SG):

V (PL)	V (SG)
read	reads
drink	drinks
go	goes
say	says
get	gets
make	makes

know	knows
------	-------

think	thinks
-------	--------

take	takes
------	-------

see	sees
-----	------

come	comes
------	-------

want	wants
------	-------

use	uses
-----	------

find	finds
------	-------

give	gives
------	-------

tell	tells
------	-------

work	works
------	-------

call	calls
------	-------

try	tries
-----	-------

ask	asks
-----	------

need	needs
------	-------

feel	feels
------	-------

become	becomes
--------	---------

leave	leaves
-------	--------

put	puts
-----	------

mean	means
------	-------

keep	keeps
------	-------

let	lets
-----	------

begin	begins
-------	--------

seem	seems
------	-------

help	helps
------	-------

talk	talks
------	-------

turn	turns
------	-------

start	starts
-------	--------

show	shows
------	-------

hear	hears
------	-------

play	plays
------	-------

run	runs
-----	------

move	moves
------	-------

like	likes
------	-------

live	lives
------	-------

believe	believes
---------	----------

hold	holds
------	-------

bring	brings
-------	--------

happen	happens
--------	---------

write	writes
-------	--------

provide	provides
---------	----------

sit	sits
-----	------

stand	stands
-------	--------

lose	loses
------	-------

pay	pays
-----	------

meet	meets
------	-------

include	includes
---------	----------

continue	continues
----------	-----------

learn	learns
-------	--------

change	changes
--------	---------

understand	understands
------------	-------------

watch	watches
-------	---------

stop	stops
------	-------

create	creates
--------	---------

eat	eats
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**Regla del parser en VP**

- El número del **verbo principal** debe coincidir con el número del sujeto (heredado del NP):
  - valid: the dog eats, the dogs eat, he runs, they run
  - invalid: the dog eat, the dogs eats, he run, they runs

## 2.5 Verbos auxiliares y modales (AUX)

Estos se etiquetan como AUX, con número ANY, y pueden combinarse con un verbo principal:

Palabra	Cat	Num	Uso
can	AUX	ANY	Modal ("poder")
may	AUX	ANY	Modal ("poder / quizá")
must	AUX	ANY	Modal ("deber")

## 2.6 Adjetivos (ADJ)

Los adjetivos son **neutros en número** (ANY). Pueden aparecer en AdjList:

- Regla gramatical:  $\text{AdjList} \rightarrow \text{ADJ AdjList} \mid \epsilon$
- Regla de NP:  $\text{NP} \rightarrow \text{DET AdjList N}$

Adjetivo	Cat	Num
other	ADJ	ANY
new	ADJ	ANY



good	ADJ	ANY
------	-----	-----

high	ADJ	ANY
------	-----	-----

old	ADJ	ANY
-----	-----	-----

great	ADJ	ANY
-------	-----	-----

big	ADJ	ANY
-----	-----	-----

small	ADJ	ANY
-------	-----	-----

large	ADJ	ANY
-------	-----	-----

young	ADJ	ANY
-------	-----	-----

different	ADJ	ANY
-----------	-----	-----

long	ADJ	ANY
------	-----	-----

little	ADJ	ANY
--------	-----	-----

important	ADJ	ANY
-----------	-----	-----

bad	ADJ	ANY
-----	-----	-----

right	ADJ	ANY
-------	-----	-----

early	ADJ	ANY
-------	-----	-----

able	ADJ	ANY
------	-----	-----

happy	ADJ	ANY
-------	-----	-----

sad	ADJ	ANY
-----	-----	-----

black	ADJ	ANY
-------	-----	-----

white	ADJ	ANY
-------	-----	-----

real	ADJ	ANY
------	-----	-----

best	ADJ	ANY
------	-----	-----

public	ADJ	ANY
--------	-----	-----

sure	ADJ	ANY
------	-----	-----

low	ADJ	ANY
-----	-----	-----

local	ADJ	ANY
-------	-----	-----

late	ADJ	ANY
------	-----	-----

human	ADJ	ANY
-------	-----	-----

strong	ADJ	ANY
--------	-----	-----

weak	ADJ	ANY
------	-----	-----

beautiful	ADJ	ANY
-----------	-----	-----

ugly	ADJ	ANY
------	-----	-----

easy	ADJ	ANY
------	-----	-----

difficult	ADJ	ANY
-----------	-----	-----

hot	ADJ	ANY
-----	-----	-----

cold	ADJ	ANY
------	-----	-----

fast	ADJ	ANY
------	-----	-----

slow	ADJ	ANY
------	-----	-----

busy	ADJ	ANY
------	-----	-----

free	ADJ	ANY
------	-----	-----

clean	ADJ	ANY
-------	-----	-----

dirty	ADJ	ANY
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full          ADJ   ANY

empty        ADJ   ANY

### Ejemplos válidos

- the big dog, these beautiful cities, that small room, students in the large school

## 2.7 Preposiciones (PREP) y frases preposicionales (PP)

Las preposiciones también son neutras en número (ANY) y se usan para construir **PP**:

- Regla típica: PP → PREP NP

Palabra	Cat	Num
---------	-----	-----

in	PREP	ANY
----	------	-----

on	PREP	ANY
----	------	-----

under	PREP	ANY
-------	------	-----

with	PREP	ANY
------	------	-----

near	PREP	ANY
------	------	-----

from	PREP	ANY
------	------	-----

to	PREP	ANY
----	------	-----

at	PREP	ANY
----	------	-----

for	PREP	ANY
-----	------	-----

### **Ejemplos de PP válidas**

- in the room
- with the students
- for the boys
- near the house, under the table