

# JABALÍN LINGUISTIC DOCUMENTATION

## 1. Lexicon of verb lemmas

The input file “lexicon\_lemas\_jabalin.txt” includes a complete list of verb lemmas from Modern Standard Arabic and Classical Arabic. Each entry includes three pieces of information, separated by tabs: lemma, root and code.

lemma	root	code
ارتفع	رفع	02L0000

The generation system generates each verb conjugation starting from the verb’s root. The code codifies all the linguistic information necessary to add all the morphemes to the root. Below, we include the equivalences of the code with the different verbal patterns.

Code	Pattern
00L0001	Iau فَعَّلَ يَفْعُلُ
00L0000	Iai فَعَّلَ يَفْعِلُ
00L0002	Iaa فَعَّلَ يَفْعُلُ
00L0101	Iuu فَعَّلَ يَفْعُلُ
00L0202	Iia فَعَّلَ يَفْعِلُ
00L0200	Iii فَعَّلَ يَفْعِلُ
20H0010	II فَعَلَ
30H0010	III فاعَلَ
03H0010	IV أفعَلَ
20H1002	V تفعَّلَ
30H1002	VI تفاعَلَ
01L0000	VII انفعَلَ
02L0000	VIII افتعلَ
10L0000	IX افعَلَّ
04H0000	X استفعَلَ
15H0000	XI افعَّالَ
56H0000	XII افعَّوعَلَ
07H0000	XIII افعَّوَلَ
18H0000	XIV افعنَّلَلَ
48H0000	XV افعنَّلَى
00H0010	QI فَعَّلَلَ
00H1002	QII تفعَّلَلَ
08H0000	QIII افعنَّلَلَ
10H0000	QIV افعلَّلَ

## 2. Phonotactic and orthotactic rules

The rules in the forms of regular expressions included in the Phonotactics module represent phonological and orthographic rules. The linguistic rule is specified in a comment at the right of each regular expression. They have the following format:

$a \rightarrow b / \_c$

*If you find a in the word-form, and if a is followed by c, then change a to b; where a is the pattern we are looking for, b in the replacement for the pattern, and c is the surrounding context; and the underscore indicates the position of a in relation to c.*

Some special characters used in regular expression are as well used for the representation of the rewrite rules:

1. The interrogative symbol '?' indicates one or zero occurrences of the previous character.
2. Square brackets '[' ]' or parenthesis plus a vertical bar '( | )' represent optionality among the characters contained inside.
3. The caret '^' means beginning of word.
4. the dollar '\$' means end of word.
5. A caret inside square brackets '[^ ]' indicates that the string is matched only if the characters inside the square brackets are not present.
6. A dot '.' indicates any character.

Note: Do not confuse the dot '.' with the interpunct '·', which is used in the transliteration to represent the *sukun* character.

Arabic characters are represented by means of the Jabalín transliteration, known as transJab. TransJab has the advantage that it restricts the use of characters to the Latin-1 set, so it is completely portable to any platform. Below we have the transliteration equivalences with the Arabic characters.

Arabic letter	Name of letter	TransJab
ء	isolated hamza	c
آ	alif mamduda	Ã
أ	hamza above alif	Á
ؤ	hamza above waw	ú
إ	hamza below alif	À
ئ	hamza above ya	ý
ا	alif	A
ب	ba	b
ة	ta marbuta	ä
ت	ta	t
ث	tha	þ
ج	jim	j
ح	Ha	H
خ	kha	x
د	dal	d
ذ	dhal	ð
ر	ra	r
ز	zay	z
س	sin	s
ش	shin	X
ص	Sin	S
ض	DaD	D
ط	Ta	T

Arabic letter	Name of letter	TransJab
ظ	Dha	Z
ع	‘ayn	ç
غ	gayn	g
ف	fa	f
ق	qaf	q
ك	kaf	k
ل	lam	l
م	mim	m
ن	nun	n
ه	ha	h
و	waw	w
ى	alif maqsura	Y
ي	ya	y
َ	fatha	a
ُ	damma	u
ِ	kasra	i
ً	double fatha	â
ٌ	double damma	û
ٍ	double kasra	î
ّ	shadda	~
◌ْ	sukun	·
-	tatweel or kashida	-

### 3. Lexicon of inflected verbs

The output lexicon includes five pieces of information, separated by tabs: inflected form, tag, lemma, root and code.

inflectedForm    tag    lemma    root    code

ارتفع	VPAN3SM	ارتفع	رفع	02L0000
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In the tag, all the inflectional information is codified. Below, we include the full tagset for a verb conjugation.

Jabalín	inflectional information
VPAN1SN	perfective active indicative first person singular
VPAN1PN	perfective active indicative first person plural
VPAN2SM	perfective active indicative second person singular masculine
VPAN2SF	perfective active indicative second person singular feminine
VPAN2DN	perfective active indicative second person dual
VPAN2PM	perfective active indicative second person plural masculine
VPAN2PF	perfective active indicative second person plural feminine
VPAN3SM	perfective active indicative third person singular masculine
VPAN3SF	perfective active indicative third person singular feminine
VPAN3DM	perfective active indicative third person dual masculine
VPAN3DF	perfective active indicative third person dual feminine
VPAN3PM	perfective active indicative third person plural masculine
VPAN3PF	perfective active indicative third person plural feminine
VPPN1SN	perfective passive indicative first person singular
VPPN1PN	perfective passive indicative first person plural
VPPN2SM	perfective passive indicative second person singular masculine
VPPN2SF	perfective passive indicative second person singular feminine
VPPN2DN	perfective passive indicative second person dual
VPPN2PM	perfective passive indicative second person plural masculine
VPPN2PF	perfective passive indicative second person plural feminine
VPPN3SM	perfective passive indicative third person singular masculine
VPPN3SF	perfective passive indicative third person singular feminine
VPPN3DM	perfective passive indicative third person dual masculine
VPPN3DF	perfective passive indicative third person dual feminine
VPPN3PM	perfective passive indicative third person plural masculine
VPPN3PF	perfective passive indicative third person plural feminine
VIAN1SN	imperfective active indicative first person singular

<b>Jabalín</b>	<b>inflectional information</b>
VIAN1PN	imperfective active indicative first person plural
VIAN2SM	imperfective active indicative second person singular masculine
VIAN2SF	imperfective active indicative second person singular feminine
VIAN2DN	imperfective active indicative second person dual
VIAN2PM	imperfective active indicative second person plural masculine
VIAN2PF	imperfective active indicative second person plural feminine
VIAN3SM	imperfective active indicative third person singular masculine
VIAN3SF	imperfective active indicative third person singular feminine
VIAN3DM	imperfective active indicative third person dual masculine
VIAN3DF	imperfective active indicative third person dual feminine
VIAN3PM	imperfective active indicative third person plural masculine
VIAN3PF	imperfective active indicative third person plural feminine
VIPN1SN	imperfective passive indicative first person singular
VIPN1PN	imperfective passive indicative first person plural
VIPN2SM	imperfective passive indicative second person singular masculine
VIPN2SF	imperfective passive indicative second person singular feminine
VIPN2DN	imperfective passive indicative second person dual
VIPN2PM	imperfective passive indicative second person plural masculine
VIPN2PF	imperfective passive indicative second person plural feminine
VIPN3SM	imperfective passive indicative third person singular masculine
VIPN3SF	imperfective passive indicative third person singular feminine
VIPN3DM	imperfective passive indicative third person dual masculine
VIPN3DF	imperfective passive indicative third person dual feminine
VIPN3PM	imperfective passive indicative third person plural masculine
VIPN3PF	imperfective passive indicative third person plural feminine
VIAS1SN	imperfective active subjunctive first person singular
VIAS1PN	imperfective active subjunctive first person plural
VIAS2SM	imperfective active subjunctive second person singular masculine
VIAS2SF	imperfective active subjunctive second person singular feminine
VIAS2DN	imperfective active subjunctive second person dual
VIAS2PM	imperfective active subjunctive second person plural masculine
VIAS2PF	imperfective active subjunctive second person plural feminine
VIAS3SM	imperfective active subjunctive third person singular masculine
VIAS3SF	imperfective active subjunctive third person singular feminine
VIAS3DM	imperfective active subjunctive third person dual masculine
VIAS3DF	imperfective active subjunctive third person dual feminine
VIAS3PM	imperfective active subjunctive third person plural masculine
VIAS3PF	imperfective active subjunctive third person plural feminine
VIPS1SN	imperfective passive subjunctive first person singular

<b>Jabalín</b>	<b>inflectional information</b>
VIPS1PN	imperfective passive subjunctive first person plural
VIPS2SM	imperfective passive subjunctive second person singular masculine
VIPS2SF	imperfective passive subjunctive second person singular feminine
VIPS2DN	imperfective passive subjunctive second person dual
VIPS2PM	imperfective passive subjunctive second person plural masculine
VIPS2PF	imperfective passive subjunctive second person plural feminine
VIPS3SM	imperfective passive subjunctive third person singular masculine
VIPS3SF	imperfective passive subjunctive third person singular feminine
VIPS3DM	imperfective passive subjunctive third person dual masculine
VIPS3DF	imperfective passive subjunctive third person dual feminine
VIPS3PM	imperfective passive subjunctive third person plural masculine
VIPS3PF	imperfective passive subjunctive third person plural feminine
VIAY1SN	imperfective active jussive first person singular
VIAY1PN	imperfective active jussive first person plural
VIAY2SM	imperfective active jussive second person singular masculine
VIAY2SF	imperfective active jussive second person singular feminine
VIAY2DN	imperfective active jussive second person dual
VIAY2PM	imperfective active jussive second person plural masculine
VIAY2PF	imperfective active jussive second person plural feminine
VIAY3SM	imperfective active jussive third person singular masculine
VIAY3SF	imperfective active jussive third person singular feminine
VIAY3DM	imperfective active jussive third person dual masculine
VIAY3DF	imperfective active jussive third person dual feminine
VIAY3PM	imperfective active jussive third person plural masculine
VIAY3PF	imperfective active jussive third person plural feminine
VIPY1SN	imperfective passive jussive first person singular
VIPY1PN	imperfective passive jussive first person plural
VIPY2SM	imperfective passive jussive second person singular masculine
VIPY2SF	imperfective passive jussive second person singular feminine
VIPY2DN	imperfective passive jussive second person dual
VIPY2PM	imperfective passive jussive second person plural masculine
VIPY2PF	imperfective passive jussive second person plural feminine
VIPY3SM	imperfective passive jussive third person singular masculine
VIPY3SF	imperfective passive jussive third person singular feminine
VIPY3DM	imperfective passive jussive third person dual masculine
VIPY3DF	imperfective passive jussive third person dual feminine
VIPY3PM	imperfective passive jussive third person plural masculine
VIPY3PF	imperfective passive jussive third person plural feminine
VIAM2SM	imperative active second person singular masculine

<b>Jabalín</b>	<b>inflectional information</b>
VIAM2SF	imperative active second person singular feminine
VIAM2DN	imperative active second person dual
VIAM2PM	imperative active second person plural masculine
VIAM2PF	imperative active second person plural feminine

**FOR ANY QUESTIONS PLEASE CONTACT:**

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