

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 فَعَلَ يَفْعُلُ |
| 00L0000 | Iai فَعَلَ يَفْعِلُ |
| 00L0002 | Iaa فَعَلَ يَفْعُلُ |
| 00L0101 | Iuu فَعَلَ يَفْعُلُ |
| 00L0202 | Iia فَعَلَ يَفْعِلُ |
| 00L0200 | Iii فَعَلَ يَفْعِلُ |
| 20H0010 | II فَعَلَ |
| 30H0010 | III فاعَلَ |
| 03H0010 | IV أفعَلَ |
| 20H1002 | V تفعَلَ |
| 30H1002 | VI تفاعلَ |
| 01L0000 | VII انفعَلَ |
| 02L0000 | VIII افتعلَ |
| 10L0000 | IX افعَلَّ |
| 04H0000 | X استفعَلَ |
| 15H0000 | XI افعالَ |
| 56H0000 | XII افوعَلَ |
| 07H0000 | XIII افعُولَ |
| 18H0000 | XIV افعنلَلَ |
| 48H0000 | XV افعنلَى |
| 00H0010 | QI فَعَلَّلَ |
| 00H1002 | QII تفعَلَّلَ |
| 08H0000 | QIII افعنلَلَ |
| 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 |
|-------|---------|-------|-----|---------|

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 |

| Jabalín | inflectional information |
|----------------|--|
| 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 |

| Jabalín | inflectional information |
|----------------|---|
| 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 |

| Jabalín | inflectional information |
|----------------|---|
| 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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