**INFERRING THE SET OF KAZAKH ENDINGS**

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**1 INFERRING OF ENDINGS FOR NOMINAL BASE WORDS**

For the semantical valid placements of nominal base words the combination method take in account: the type of stem (last character: vowel/consonant; vowel: solid/soft; consonant: deaf/voiced-sonorous); the kind of the last syllable (solid/ soft) of each suffix for suffixes type. For combination are used links (sequences) between the same kinds of features: solid –solid, soft-soft, deaf-solid, voice-soft.

**1.1 Inferring of endings for placement type КТ (Plural – Possesive).**

Inferring of endings for placement type КТ (Plural – Possesive) present in the Table 1. Combinations in placements KT: K\*T=(6 sufFixes K) \*(5 suffixes different T) = 30 placements KT. For choosing of suffixe in T for each suffixe of K is working harmony rules of the Kazakh language.

Table 1. Inferring of endings for placement type КТ (Plural – Possesive).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | suffixes type K | suffixes type T | | Number of endings |
| Singular | Plural | 6\*5=30 |
| examples | * dar- * der- * lar- * ler- * tar- * ter- | * ym, im | * ymyz, imiz |
| * yń, iń | * yńyz, ińiz |
| * yńyz, ińiz | * yńyz, ińiz |
| * y, і | * y, i |
| ana- | -lar- | * ym,yń,yńyz,y | * ymyz | 5 |
| ini- | -ler- | * im,iń,ińiz,i | * imiz | 5 |
| at- | -tar- | * ym,yń,yńyz,y | * ymyz | 5 |
| ıt- | -ter- | * im,iń,ińiz,i | * imiz | 5 |
| ań- | -dar- | * ym,yń,yńyz,y | * ymyz | 5 |
| pán- | -der- | * im,iń,ińiz,i | * imiz | 5 |

**1.2 Inferring of endings for placement type КC (Plural – Case).**

Inferring of endings for placement type КC (Plural – Case) present in the Table 2. Combinations in placements KC: K\*C= (6 suffixes K) \*(one suffix from each of 6 cases) = 36 placements KC. For choosing of suffixe in C for each suffixe of K is working harmony rules of the Kazakh language.

Table 2. Inferring of endings for placement type КC (Plural – Case).

|  |  |  |  |
| --- | --- | --- | --- |
| suffixes type K | suffixes type C | | Number of endings |
| 1. nom.  2. gen.  3. dat.  4. acc.  5. loc.  6. abl.  7.instr. | -  -dyń, diń  -ǵa, ge  -dy, di  -da, de  -dan, den  -men | 6\*6=36 |
| * dar- * der- * lar-   ler-   * tar- * ter- |

**1.3 Inferring of endings for placement type КJ (Plural-Personal).**

Inferring of endings for placement type КJ (Plural-Personal) present in the Table 3.

Combinations in placements KJ: K\*J= (6 suffixes K) \*(one suffix from each of 3 persons J) = 18 placements KJ. For choosing of suffixe in J for each suffixe of K is working harmony rules of the Kazakh language.

Table 3. Inferring of endings for placement type КJ (Plural-Personal).

|  |  |  |
| --- | --- | --- |
| suffixes type K | suffixes type J | Number of endings |
| 6\*3=18 |
| * dar- * der- * lar- * ler- * tar- * ter- | * myz, miz   byz, biz |
| * syńdar   sińder |
| * syzdar   sizder |
|  |

**1.4 Inferring of endings for placement type TC (Possesive-Case).**

Inferring of endings for placement type TC (Possesive-Case) presents in the Table 4.

Combinations in placements TC: T\*C= (24 suffixes T) \*(one suffix from each of 6 cases C) = 144 placements TC. For choosing of suffixe in C for each suffixe of T is working harmony rules of the Kazakh language.

Table 4. Inferring of endings for placement type TC (Possesive-Case).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | suffixes type T | | | | | suffixes type C | | Number of endings |
| Last sound (Sońǵy dybys) | | | | |
| examples  for T1 | Dauysty(vowels) | | | Dauyssyz(consonants) | |
| Juan  (solid) | Jiniśke (soft) | | Juan  (deaf) | Jiniśke (voiced) |
| 1. nom.  2. gen.  3. dat.  4. acc.  5. loc.  6. abl.  7.instr. | -  -dyń, diń, nyń, niń;  -a, e, ǵa, ge, na, ne;  -n, na, ne, dy, di;  -da, de, nda, nde;  -dan, den, nan, nen;  -ben, men | 24\*6=144 |
| T1)-m,myz;  T2)-ń, ńyz;  T3)-ńyz;  T4)-sy; | | -m,miz;  -ń,ńyz;  -ńiz  -si | -ym, ymyz;  -yń, yńyz;  -yńyz;  -y | -im, imiz  -iń, ińiz;  -ińiz;  -i |
| ana- | -m- | |  |  |  | 2,3,4,5,6,7 | -nyń,a,ǵa,dy,da,nan,dan,men,ben; | 6 |
| ini- |  | | -m- |  |  | 2,3,4,5,6,7 | -niń,e,ge,di,de,nen,den,men,ben; | 6 |
| at- |  | |  | -ym- |  | 2,3,4,5,6,7 | nyń,a,ǵa,dy,da,nan,dan,men,ben; | 6 |
| pán- |  | |  |  | -im- | 2,3,4,5,6,7 | - niń,e,ge,di,de,nen,den,men,ben; | 6; |

Examples: ana-m-nyń; ana-m-a; ana-m-dy; ana-m-da; ana-m-nan; ana-m-men.

**1.5 Inferring of endings for placement type TJ (Possesive-Personal).**

Inferring of endings for placement type TJ (Possesive- Personal) presents in the Table 5.

Combinations in placements TJ: there are 7 available links T1-J2:8;T1-J3:8;T2-J1:8;T3-J1:8;T4-J1:8;T4-J2:8;T4-J3:8. Each TJ link consist from (4 suffixes T)\*(2 suffixes J: singular, plural) = 8 T\*J = (7 TJ links)\*(8 endings) = 56 placements TJ. For choosing of suffixe in J for each suffixe of T is working harmony rules of the Kazakh language.

Table 5. Inferring of endings for placement type TJ (Possesive-Personal).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| suffixes type T | | | | suffixes type J | | Number of endings |
| Last sound (Sońǵy dybys) | | | |
| Dauysty(vowels) | | Dauyssyz(consonants) | | links:  T1-J2:8;  T1-J3:8;  T2-J1:8;  T3-J1:8;  T4-J1:8;  T4-J2:8;  T4-J3:8;  Total: 8\*7=56 |
| Juan  (solid) | Jiniśke (soft) | Juan  (deaf) | Jiniśke (voiced) | Singular | Plural |
| J1)-myn,byn, pyn, min, bin, pin;  J2)-syń, siń;  J3)-syz, siz;;  J4) - | -myz, miz, byz, biz;  -syńdar,sińder;  -syzdar, sizder;  - |
| T1)-m,myz;  T2)-ń, ńyz;  T3)-ńyz;  T4)-sy; | -m,miz;  -ń,ńiz;  -ńiz  -si | -ym, ymyz;  -yń, yńyz;  -yńyz;  -y | -im, imiz  -iń, ińiz;  -ińiz;  -i |

**1.6 Inferring of endings for placement type CJ (Case-Personal).**

Inferring of endings for placement type CJ (Case - Personal) presents in the Table 6.

Combinations in placements CJ: there are 4 available cases: dative, locative, ablative, instrumental. Each available case consist from (possible suffixes C)\*(3 suffixes of persons J)\*(2 numbers: singular, plural) = 8\*3\*2 + 6\*3\*2+ 6\*3\*2+6\*3\*2+3\*3\*2 = 138 placements CJ. For choosing of suffixe in J for each suffixe of C is working harmony rules of the Kazakh language.

Table 6. Inferring of endings for placement type CJ (Case - Personal).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| suffixes’ type C | | suffixes’ type J | | | Number of endings |
| 1. nom.  2. gen.  3. dat.  4. acc.  5. loc.  6. abl.  7.instr. | -  (-dyń, diń, nyń, niń, tyń, tiń) – no use  -a, e, ǵa, ge, qa,qe, na, ne  (-n, na, ne, dy, di, ty,ti) – no use  -da, de, nda, nde, ta, te  -dan, den, nan, nen, tan, ten  -ben, men, ten | Singular | | Plural | 3) 8\*3\*2=48  5) 6\*3\*2=36  6) 6\*3\*2=36  7) 3\*3\*2=18  Total - 138 |
| Juan (solid) | Jiniśke (soft) | - myz, miz, byz, biz;  -syńdar,sińder;  -syzdar, sizder;  - |
| -myn,byn, pyn;  -syń;  -syz;  - | -min,bin,pin;  -siń;  -siz;  - |

**1.7 Inferring of endings for placement type KTC (Plural – Possesive- Case).**

Inferring of endings for placement type KTC (Plural – Possesive- Case) presents in the Table 7.

Combinations in placements KTC: (there are 6 suffixes K)\*(4 persons of suffixes T) \* (6 cases of C) =6\*4\*6 = 144 placements KTC. For choosing of suffixe in T for each suffixe of K and choosing of suffixes C for each suffixe T are working harmony rules of the Kazakh language.

Table 7. Inferring of endings for placement type KTC (Plural – Possesive- Case).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| suffixes type K | suffixes type T | suffixes type C | | Number of endings |
| 1. nom.  2. gen.  3. dat.  4. acc.  5. loc.  6. abl.  7.instr. | -  -dyń, diń, nyń, niń, tyń, tiń;  -a, e, ǵa, ge, qa,qe, na, ne;  -n, na, ne, dy, di, ty,ti;  -da, de, nda, nde, ta, te;  -dan, den, nan, nen, tan, ten;  -ben, men, ten | 6\*4\*6=144 |
| * dar * der * lar * ler * tar * ter | * ym, im |
| * yń, iń |
| * yńyz, ińiz |
| * y, i |

**1.8 Inferring of endings for placement type KTJ (Plural – Possesive- Personal).**

Inferring of endings for placement type KTJ (Plural – Possesive- Personal) presents in the Table 8. Combinations in placements KTJ: there are 7 available links T1-J2:6;T1-J3:6;T2-J1:6;T3-J1:6;T4-J1:6;T4-J2:6;T4-J3:8. Each TJ link consist from (one suffixe T)\*(6 suffixes J: singular, plural) = 6. T\*J = (7 TJ links)\*(6 endings) = 42 placements TJ. KTJ= (7 endings K)\*( 42 placements TJ) = 252 placements KTJ. For choosing of suffixe in T for each suffixe of K and choosing of suffixes J for each suffixe T are working harmony rules of the Kazakh language.

Table 8. Inferring of endings for placement type KTJ (Plural – Possesive- Personal).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| suffixes type K | suffixes type T | suffixes type J | | Number of endings |
| Single | Plural | T1-J2:6;  T1-J3:6;  T2-J1:6;  T3-J1:6;  T4-J1:6;  T4-J2:6;  T4-J3:6;  Total: 6\*6\*7=252 |
| * dar * der * lar * ler * tar * ter | T1- ym, im-  T2 - yń, iń-  T3- yńyz, ińiz-  T4 - y, i- | J1 -myn, byn, pyn, min, bin, pin ;  J2 –syń, siń;  J3 –syz, siz;;  J4 - | - myz, miz, byz, biz;  -syńdar,sińder;  -syzdar, sizder;  - |

Example: ana-lar-yń-byz.

**1.9 Inferring of endings for placement type КCJ (Plural – Case- Personal).**

Inferring of endings for placement type КCJ (Plural – Case- Personal) present in the Table 2. Combinations in placements KCJ: K\*C= (6 suffixes K) \*(4 cases C: dat, loc, abl, inst)\*(3 singular+3 plural of J ) = 144 placements KC. For choosing of suffixe in C for each suffixe of K and choosing suffixes in J for each suffixe of C are working harmony rules of the Kazakh language.

Table 9. Inferring of endings for placement type КCJ (Plural – Case- Personal).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| suffixes’ type K | suffixes’ type C | | suffixes’ type J | | | Number of endings |
| * dar * der * lar * ler * tar * ter | | 1) атау -  2) ilik- (-dyń, diń, nyń, niń, tyń, tiń) – no use  3) barys -ǵa, ge, qa,qe, na, ne  4) tabys -(-n, na, ne, dy, di, ty,ti) – no use  5) jatys-da, de, nda, nde, ta, te  6) śygys -dan, den, nan, nen, tan, ten  7)komektes- men | Singular | | Plural | K(6)\*J(singular=3 + plural=3)  K\*J  C3) 6\*6=36  C5) 6\*6=36  C6) 6\*6=36  C7) 6\*6=36  Total - 144 |
| Juan (solid) | Jiniśke (soft) | - myz, miz, byz, biz;  -syńdar,sińder;  -syzdar, sizder;  - |
| -myn;  -syń;  -syz;  - | -min;  -siń;  -siz;  - |

Example: ana-lar-ǵa-myn.

**1.10 Inferring of endings for placement type TCJ (Possesive-Case-Personal).**

Inferring of endings for placement type TCJ (Possesive-Case-Personal) presents in the Table 10.

Combinations in placements TCJ: T\*C\*J= (16 suffixes of T) \*(one suffix from each of 4 cases C: C3,C5,C6,C7)\*( 3 singular+3 plural of J) = 384 placements TCJ. For choosing of suffixe in C for each suffixe of T and choosing suffixes in J for each suffixe of C are working harmony rules of the Kazakh language.

Table 10. Inferring of endings for placement type TCJ (Possesive-Case-Personal).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | suffixes type T | | | | suffixes’ type C | suffixes type J | | Number of endings |
| Last sound (Sońǵy dybys) | | | |
| examples | Dauysty(vowels) | | Dauyssyz(consonants) | | 3) barys - a, e, ǵa, ge, qa,qe, na, ne;  5) jatys-da, de, nda, nde, ta, te;  6) śygys -dan, den, nan, nen, tan, ten;  7)komektes- men; | links:  T1-C3-J:4\*6=24;  T2-C3-J:4\*6=24;  T3-C3-J:4\*6=24;  T4-C3-J:4\*6=24;  T1-C5-J:4\*6=24;  T2-C5-J:4\*6=24;  T3-C5-J:4\*6=24;  T4-C5-J:4\*6=24;  T1-C6-J:4\*6=24;  T2-C6-J:4\*6=24;  T3-C6-J:4\*6=24;  T4-C6-J:4\*6=24;  T1-C7-J:4\*6=24;  T2-C7-J:4\*6=24;  T3-C7-J:4\*6=24;  T4-C7-J:4\*6=24;  Total: 96\*4=384 |
| Juan  (solid) | Jiniśke (soft) | Juan  (deaf) | Jiniśke (voiced) | Singular | Plural |
| J1)-myn,min;  J2)-syń; siń;  J3)-syz; siz; | -myz,miz,byz,biz;  -syńdar, sińder;  -syzdar, sizder; |
| T1)-m  T2)-ń  T3)-ńyz  T4)-sy | -m  -ń  -ńiz  -si | -ym  -yń  -yńyz  -y | -im  -iń  -ińiz  -i |
| ana- | -m, ń,  ńyz, sy- |  |  |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| ini- |  | -m,ń, ńiz,si- |  |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| at- |  |  | -ym, yń, yńyz, y- |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| pán- |  |  |  | -im,iń,ińiz,i- | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |

Example: ana-m-a-myn

**1.11 Inferring of endings for placement type KTCJ (Plural – Possesive- Case-Personal).**

Inferring of endings for placement type KTCJ (Plural – Possesive- Case-Personal) presents in the Table 11.

Combinations in placements KTCJ: ( 6 suffixes K)\*(16 of suffixes T) \* (6 cases of C) =6\*16\*6 = 576 placements KTCJ. For choosing of suffixe in T for each suffixe of K and choosing of suffixes C for each suffixe T and choosing suffixes in J for each suffixe of C are working harmony rules of the Kazakh language.

Table 11. Inferring of endings for placement type KTCJ (Plural – Possesive- Case-Personal).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | suffixes type K | suffixes type T | | suffixes’ type C | suffixes type J | | Number of endings |
| Last sound (Sońǵy dybys) | |
|  |  | Dauyssyz(consonants) | | 3) barys - a, e, ǵa, ge, qa,qe, na, ne;  5) jatys-da, de, nda, nde, ta, te;  6) śygys -dan, den, nan, nen, tan, ten;  7)komektes- men; | links:  K1-T-C-J:4\*4\*6=96;  K2-T-C-J: 4\*4\*6=96;  K3-T-C-J: 4\*4\*6=96; K4-T-C-J: 4\*4\*6=96;  K5-T-C-J: 4\*4\*6=96;  K6-T-C-J: 4\*4\*6=96;  Total: 96\*6=576 |
|  |  | Juan  (deaf) | Jiniśke (voiced) | Singular | Plural |
|  |  | J1)-myn,min, byn,bin;  J2)-syń; siń;  J3)-syz; siz; | -myz,miz, byz,biz;  -syńdar, sińder;  -syzdar, sizder; |
| examples | K1-dar;  K2-der;  K3-lar;  K4-ler;  K5-tar;  K6-ter. | T1-ym  T2)-yń  T3-yńyz  T4-y | -im  -iń  -ińiz  -i |
| ana- | -lar | -ym, yń, yńyz,y- |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| at- | -tar | -ym, yń, yńyz,y- |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| san- | -dar | -ym, yń, yńyz,y- |  | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| órt- | -ter |  | -im, iń, ińiz,i- | -3,5,6,7- | -J1,J2,J3 | -1,J2,J3 | 4\*4\*6=96 |
| ini- | -ler |  | -im, iń, ińiz,i- | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |
| pán- | -der |  | -im, iń, ińiz,i- | -3,5,6,7- | -J1,J2,J3 | -J1,J2,J3 | 4\*4\*6=96 |

**2 INFERRING OF ENDINGS FOR VERB BASE WORDS**

**2.1 Inferring of endings for verbs**

**2.1.1 Present Tense (Osy Śaq)**

Simple Type Present tense

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
|  | otyr-  jatyr-  týr-  júr- | -myn, min | -syń, siń | -syz, siz | - | 8 (different) |
|  | myz, miz | -syz, siz | -syz, siz | - |
|  |  |  |  |  | Total | 8 |

Complex Type Present tense

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| jaz-  kúl- | -yp,ip,p + otyr,týr,júr- | -myn,min  plural:  -myz, miz | -syń, siń  plural:  -syńdar, sińder | -syz, siz  plural:  -syzdar, sizder | -  plural:  - | 6+6  6 |
| bar-  kel- | -a,e + jatyr- |
| qara- | -p + otyr,týr,júr- |
|  |  |  |  |  | Total | 18 |

Transitive present tense (Auspaly osy śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| jaz-  kúl-  bar-  kel-  qara- | -a,e,ı- | -myn,min  plural:  -myz, miz | -syń, siń  plural:  -syńdar, sińder | -syz, siz  plural:  -syzdar, sizder | -dy,di  plural:  -dy,di | 3\*4=12  3\*4=12 |
|  |  |  |  |  | Total | 24 |

**2.1.2 Past Tense (Ótken Śaq)**

Past simple tense (Jedel ótken śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  ket-  jaz-  kúl-  bar-  kel-  qara- | -ty,dy -  -ti,di - | -m;  -m; | -ń;  -ń; | -ńyz;  -ńiz; | -  - | 8  8 |
| -ty,dy -  -ti,di - | plural:  -q;  -k; | plural:  -ńdar;  -ńder; | plural:  -ńyzdar;  -ńizder; | plural:  - | 8  8 |
|  |  |  |  |  | Total | 32 |

Negative type (Bolymsyz túri)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| bar-  jaz-  aıt-  kúl-  kel-  júz-  ket- | -ma,ba,pa - dy -  -me,be,pe - di - | -m;  -m; | -ń;  -ń; | -ńyz;  -ńiz; | -  - | 12  12 |
| -ma,ba,pa - dy -  -me,be,pe - di - | plural:  -q;  -k; | plural:  -ńdar;  -ńder; | plural:  -ńyzdar;  -ńizder; | plural:  -  - | 12  12 |
|  |  |  |  |  | Total | 48 |

Previous past tense (býryngy ótken śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara- | -ǵan,qan -  -gen,ken - | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -  - | 8  8 |
| -ǵan,qan -  -gen,ken - | plural:  -byz;  -biz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  - | 8  8 |
|  |  |  |  |  | Total | 32 |

Negative type (Bolymsyz túri): created by + joq-(persons), therefore are not accounted. Example: bar-gan joq-pyn(pin,syń, siń,syz,siz,byz,biz, syńdar;sińder,syzdar,sizder)

Ancient past tense (Ejelgi ótken śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara- | -yp, p -  -ip, p - | -pyn;  -pin; | -syń;  -siń; | -syz;  -siz; | -ty  -ti | 8  8 |
| -yp, p -  -yp, p - | plural:  -pyz;  -piz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -ty;  -ti; | 8  8 |
|  |  |  |  |  | Total | 32 |

Negative type (Bolymsyz túri):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| bar-  jaz-  aıt-  kúl-  kel-  júz-  ket- | -ma,ba,pa - p -  -me,be,pe - p - | -pyn;  -pin; | -syń;  -siń; | -syz;  -siz; | -ty  -ti | 12  12 |
| -ma,ba,pa - p -  -me,be,pe - p - | plural:  -pyz;  -piz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -ty;  -ti; | 12  12 |
|  |  |  |  |  | Total | 48 |

Transistive past tense (Auyspaly ótken śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara- | -atyn, ıtyn -  -etin, ıtin - | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -  - | 8  8 |
| -atyn, ıtyn -  -etin, ıtin - | plural:  -byz;  -biz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -  - | 8  8 |
|  |  |  |  |  | Total | 32 |

Negative type (Bolymsyz túri):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| bar-  jaz-  aıt-  kúl-  kel-  júz-  ket- | -ma,ba,pa - ıtyn -  -me,be,pe - ıtin - | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -  - | 12  12 |
| -ma,ba,pa - ıtyn -  -me,be,pe - ıtin - | plural:  -byz;  -biz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -  - | 12  12 |
|  |  |  |  |  | Total | 48 |

ait-pa-ıtyn-myn

**2.1.3 Future Tense (Keler Śaq)**

Assumed future tense (Boljaldy keler śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -ar, r -  -er, r - | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -  - | 8  8 |
| -ar, r -  -er, r - | plural:  -myz;  -miz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -  - | 8  8 |
|  |  |  |  |  | Total | 32 |

Example: ait-ar-myn.

Negative type (Bolymsyz túri):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -ar, r + emes-  -er, r + emes- | -pyn;  -pin; | -syń;  -siń; | -syz;  -siz; | -  - | 5  5 |
| -ar, r + emes-  -er, r + emes- | plural:  -pyz;  -piz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -  - | 5  5 |
|  |  |  |  |  | Total | 20 |

Example: ait-ar emes-pyn.

Intent future tense (Maqsatty keler śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -maq,baq,paq -  -mek,bek,pek - | -pyn;  -pin; | -syń;  -siń; | -syz;  -siz; | -śy  -śi | 12  12 |
| -maq,baq,paq -  -mek,bek,pek - | plural:  -pyz;  -piz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -śy  -śi | 12  12 |
|  |  |  |  |  | Total | 48 |

Example: ait-paq-pyn.

Negative type (Bolymsyz túri):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -maq, baq, paq + emes-  -mek, bek, pek + emes- | -pyn;  -pin; | -syń;  -siń; | -syz;  -siz; | -śy emes  -śi emes | 6  6 |
| -maq, baq, paq + emes-  -mek, bek, pek + emes- | plural:  -pyz;  -piz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -śy emes  -śi emes | 3  3 |
|  |  |  |  |  | Total | 18 |

Example: ait-paq emes-pyn.

Transitive future tense (Auyspaly keler śaq)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -a, ı-  -e, ı- | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -dy  -di | 8  8 |
| -a, ı-  -e, ı- | plural:  -myz;  -miz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -dy  -di | 8  8 |
|  |  |  |  |  | Total | 32 |

Example: ait-a-myn.

Negative type (Bolymsyz túri):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -ba, ma, pa- ı-  -be, me, pe- ı- | -myn;  -min; | -syń;  -siń; | -syz;  -siz; | -dy  -di | 12  12 |
| -ba, ma, pa- ı-  -be, me, pe- ı- | plural:  -myz;  -miz; | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -dy  -di | 12  12 |
|  |  |  |  |  | Total | 48 |

Example: ait-pa-ı-myn

**2.2 Inferring of endings for participles**

analyses RK

|  |  |  |  |
| --- | --- | --- | --- |
|  | suffixes type R | suffixes type T | Number of endings |
| 14 |
| examples | * ǵan, gen- * qan, ken- * atyn, etin * ıtyn, ıtin- * uśy, uśi- * ar,er,r- | - dar, der  - lar, ler |
| bar- | - ǵan - | * dar |  |
| kel- | -gen- | * der |  |
| at- | -qan- | * dar |  |
| jet- | -ken- | * der |  |
| bar- | -atyn- | * dar |  |
| kel- | -etin- | * der |  |
| jyla- | - ıtyn- | * dar |  |
| bıle- | - ıtin- | * der |  |
| tyńda- | - uśy- | * lar |  |
| tóle- | - uśi- | * ler |  |
| bar- | - ar - | * lar |  |
| kel- | -er- | * ler |  |
| soıle- | -r- | * ler |  |
| tyńda- | -r- | * lar |  |

analyses RT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type T | | Number of endings |
| Last sound -consonant | |
| Singular | Plural | 14\*5=70 |
| examples | * ǵan, gen- * qan, ken- * atyn, etin * ıtyn, ıtin- * uśy, uśi- * ar,er * r | * ым (ym), ім(im) | * ымыз (ymyz), іміз(imiz) |
| * ың (yń), ің(iń) | * ыңыз (yńyz), іңіз(ińiz) |
| * ыңыз (yńyz), іңіз(ińiz) | * ыңыз (yńyz), іңіз(ińiz) |
| * ы (y), і(i) | * ы (y), (i) |
| bar- | - ǵan - | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -gen- | * im,iń,ińiz,i | * imiz | 5 |
| at- | -qan- | * ym,yń,yńyz,y | * ymyz | 5 |
| jet- | -ken- | * im,iń,ińiz,i | * imiz | 5 |
| bar- | -atyn- | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -etin- | * im,iń,ińiz,i | * imiz | 5 |
| jyla- | - ıtyn- | * ym,yń,yńyz,y | * ymyz | 5 |
| bıle- | - ıtin- | * im,iń,ińiz,i | * imiz | 5 |
| tyńda- | - uśy- | * ym,yń,yńyz,y | * ymyz | 5 |
| tóle- | - uśi- | * im,iń,ińiz,i | * imiz | 5 |
| bar- | - ar - | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -er- | * im,iń,ińiz,i | * imiz | 5 |
| soıle- | -r- | * im,iń,ińiz,i | * imiz | 5 |
| tyńda- | -r- | * ym,yń,yńyz,y | * ymyz | 5 |

analyses RC

|  |  |  |  |
| --- | --- | --- | --- |
|  | suffixes type R | suffixes type C | Number of endings |
| 14\*6=84 |
| examples | * ǵan, gen- * qan, ken- * atyn, etin * ıtyn, ıtin- * uśy, uśi- * ar,er * r | -  -dyń, diń, nyń, niń, tyń, tiń;  -a, e, ǵa, ge, qa,qe, na, ne;  -n, na, ne, dy, di, ty,ti;  -da, de, nda, nde, ta, te;  -dan, den, nan, nen, tan, ten;  -ben, men, ten |
| bar- | - ǵan - | * nyń, ǵa,dy,da,nan,men | 6 |
| kel- | -gen- | * niń,ge,di,de,nen,men | 6 |
| at- | -qan- | * nyń, ǵa,dy,da,nan,men | 6 |
| jet- | -ken- | * niń,ge,di,de,nen,men | 6 |
| bar- | -atyn- | * nyń, ǵa,dy,da,nan,men | 6 |
| kel- | -etin- | * niń,ge,di,de,nen,men | 6 |
| jyla- | - ıtyn- | * nyń, ǵa,dy,da,nan,men | 6 |
| bıle- | - ıtin- | * niń,ge,di,de,nen,men | 6 |
| tyńda- | - uśy- | * nyń, ǵa,dy,da,nan,men | 6 |
| tóle- | - uśi- | * niń,ge,di,de,nen,men | 6 |
| bar- | - ar - | * dyń, ǵa,dy,da, dan,men | 6 |
| kel- | -er- | * diń, ge,di,de,den,men | 6 |
| soıle- | -r- | * diń, ge,di,de,den,men | 6 |
| tyńda- | -r- | * dyń, ǵa,dy,da, dan,men | 6 |

analyses RJ

|  |  |  |  |
| --- | --- | --- | --- |
|  | suffixes type R | suffixes type J | Number of endings |
| 14\*6=84 |
| examples | * ǵan, gen- * qan, ken- * atyn, etin * ıtyn, ıtin- * uśy, uśi- * ar,er * r | J1)-myn,min, byn,bin; myz,miz,byz,biz;    J2)-syń; siń; syńdar, sińder;  J3)-syz; siz; syzdar, sizder; |
| bar- | - ǵan - | -myń, syń, syz, byz,syńdar,syzdar; | 6 |
| kel- | -gen- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| at- | -qan- | -myń,syń, syz, byz, syńdar, syzdar; | 6 |
| jet- | -ken- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| bar- | -atyn- | -myń,syń, syz, byz, syńdar, syzdar; | 6 |
| kel- | -etin- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| jyla- | - ıtyn- | -myń,syń, syz, byz, syńdar, syzdar; | 6 |
| bıle- | - ıtin- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| tyńda- | - uśy- | -myń,syń, syz, byz, syńdar, syzdar; | 6 |
| tóle- | - uśi- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| bar- | - ar - | -myń,syń, syz, byz, syńdar, syzdar; | 6 |
| kel- | -er- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| soıle- | -r- | -miń,siń,siz,biz,sińder,sizder; | 6 |
| tyńda- | -r- | -myń,syń, syz, byz, syńdar, syzdar; | 6 |

analyses RKT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type K | suffixes type T | | Number of endings |
| Last sound -consonant | |
| Singular | Plural | 14\*5=70 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | * dar- * der- * lar- * ler- * tar- * ter- | * ым (ym), ім(im) | * ымыз (ymyz), іміз(imiz) |
| * ың (yń), ің(iń) | * ыңыз (yńyz), іңіз(ińiz) |
| * ыңыз (yńyz), іңіз(ińiz) | * ыңыз (yńyz), іңіз(ińiz) |
| * ы (y), і(i) | * ы (y), (i) |
| bar- | - ǵan - | -dar- | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -gen- | -der- | * im,iń,ińiz,i | * imiz | 5 |
| at- | -qan- | -dar- | * ym,yń,yńyz,y | * ymyz | 5 |
| jet- | -ken- | -der- | * im,iń,ińiz,i | * imiz | 5 |
| bar- | -atyn- | -dar- | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -etin- | -der- | * im,iń,ińiz,i | * imiz | 5 |
| jyla- | - ıtyn- | -dar- | * ym,yń,yńyz,y | * ymyz | 5 |
| bıle- | - ıtin- | -der- | * im,iń,ińiz,i | * imiz | 5 |
| tyńda- | - uśy- | -lar- | * ym,yń,yńyz,y | * ymyz | 5 |
| tóle- | - uśi- | -ler- | * im,iń,ińiz,i | * imiz | 5 |
| bar- | - ar - | -lar- | * ym,yń,yńyz,y | * ymyz | 5 |
| kel- | -er- | -ler- | * im,iń,ińiz,i | * imiz | 5 |
| soıle- | -r- | -ler- | * im,iń,ińiz,i | * imiz | 5 |
| tyńda- | -r- | -lar- | * ym,yń,yńyz,y | * ymyz | 5 |

analyses RKC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type K | suffixes type C | Number of endings |
| 14\*6=84 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | * dar- * der- * lar- * ler- * tar- * ter- | 1)-  2)-dyń, diń, nyń, niń, tyń, tiń;  3)-a, e, ǵa, ge, qa,qe, na, ne;  4)-n, na, ne, dy, di, ty,ti;  5)-da, de, nda, nde, ta, te;  6)-dan, den, nan, nen, tan, ten;  7)-ben, men, ten |
| bar- | - ǵan - | -dar- | * dyń, ǵa, dy, da, dan, men | 6 |
| kel- | -gen- | -der- | * diń, ge, di, de, den,men | 6 |
| at- | -qan- | -dar- | * dyń, ǵa, dy, da, dan, men | 6 |
| jet- | -ken- | -der- | * diń, ge, di, de, den,men | 6 |
| bar- | -atyn- | -dar- | * dyń, ǵa, dy, da, dan, men | 6 |
| kel- | -etin- | -der- | * diń, ge, di, de, den,men | 6 |
| jyla- | - ıtyn- | -dar- | * dyń, ǵa, dy, da, dan, men | 6 |
| bıle- | - ıtin- | -der- | * diń, ge, di, de, den,men | 6 |
| tyńda- | - uśy- | -lar- | * dyń, ǵa, dy, da, dan, men | 6 |
| tóle- | - uśi- | -ler- | * diń, ge, di, de, den,men | 6 |
| bar- | - ar - | -lar- | * dyń, ǵa, dy, da, dan, men | 6 |
| kel- | -er- | -ler- | * diń, ge, di, de, den,men | 6 |
| soıle- | -r- | -ler- | * diń, ge, di, de, den,men | 6 |
| tyńda- | -r- | -lar- | * dyń, ǵa, dy, da, dan, men | 6 |

analyses RKJ

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type K | suffixes type J | Number of endings |
| 14\*3=42 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | * dar- * der- * lar- * ler- * tar- * ter- | J1)-myn,min, byn,bin; myz,miz,byz,biz;    J2)-syń; siń; syńdar, sińder;  J3)-syz; siz; syzdar, sizder; |
| bar- | - ǵan - | -dar- | * myz,syńdar,syzdar; | 3 |
| kel- | -gen- | -der- | * miz,sińder,sizder; | 3 |
| at- | -qan- | -dar- | * myz,syńdar,syzdar; | 3 |
| jet- | -ken- | -der- | * miz,sińder,sizder; | 3 |
| bar- | -atyn- | -dar- | * myz,syńdar,syzdar; | 3 |
| kel- | -etin- | -der- | * miz,sińder,sizder; | 3 |
| jyla- | - ıtyn- | -dar- | * myz,syńdar,syzdar; | 3 |
| bıle- | - ıtin- | -der- | * miz,sińder,sizder; | 3 |
| tyńda- | - uśy- | -lar- | * myz,syńdar,syzdar; | 3 |
| tóle- | - uśi- | -ler- | * miz,sińder,sizder; | 3 |
| bar- | - ar - | -lar- | * myz,syńdar,syzdar; | 3 |
| kel- | -er- | -ler- | * miz,sińder,sizder; | 3 |
| soıle- | -r- | -ler- | * miz,sińder,sizder; | 3 |
| tyńda- | -r- | -lar- | * myz,syńdar,syzdar; | 3 |

analyses RTC

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type T | | suffixes type C | Number of endings |
| Last sound -consonant | | 14\*30=420 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | -ym, im  -yń,iń  yńyz,ińiz  -y ,i | -ymyz, imiz;  -yńyz, ińiz;  --yńyz, ińiz;  -y ,i | 1)-  2)-dyń, diń, nyń, niń, tyń, tiń;  3)-a, e, ǵa, ge, qa,qe, na, ne;  4)-n, na, ne, dy, di, ty,ti;  5)-da, de, nda, nde, ta, te;  6)-dan, den, nan, nen, tan, ten;  7)-ben, men, ten |
| bar- | - ǵan - | -ym,yń,yńyz,y,ymyz - | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| kel- | -gen- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| at- | -qan- | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| jet- | -ken- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| bar- | -atyn- | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| kel- | -etin- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| jyla- | - ıtyn- | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| bıle- | - ıtin- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| tyńda- | - uśy- | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| tóle- | - uśi- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| bar- | - ar - | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |
| kel- | -er- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| soıle- | -r- | -im,iń,ińiz,i,imiz- | | * niń,diń;e;di;de;nen,den;men,ben; | 5\*6=30 |
| tyńda- | -r- | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a;dy;da;nan,dan;men,ben; | 5\*6=30 |

analyses RCJ

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type C | suffixes type J | Number of endings |
| 14\*24=336 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | 1)-  2)-dyń, diń, nyń, niń, tyń, tiń;  3)-a, e, ǵa, ge, qa,qe, na, ne;  4)- ny, ni, dy, di, ty,ti, n;  5)-da, de, nda, nde, ta, te;  6)-dan, den, nan, nen, tan, ten;  7)-ben, men, ten | J1)-myn,min, byn,bin; myz,miz,byz,biz;    J2)-syń; siń; syńdar, sińder;  J3)-syz; siz; syzdar, sizder; |
| bar- | - ǵan - | - ǵa, da, nan, men, - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -gen- | - ge,de,nen,men - | * min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| at- | -qan- | - ǵa, da, nan, men, - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| jet- | -ken- | - ge,de,nen,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| bar- | -atyn- | - ǵa, da, nan, men, - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -etin- | - ge,de,nen,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| jyla- | - ıtyn- | - ǵa, da, nan, men, - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| bıle- | - ıtin- | - ge,de,nen,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| tyńda- | - uśy- | - ǵa, da, nan, men, - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| tóle- | - uśi- | - ge,de,nen,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| bar- | - ar - | - ǵa, da, dan, men- | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -er- | - ge,de,den,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| soıle- | -r- | - ge,de,den,men - | * miz,sińder,sizder; miz, sińder, sizder; | 4\*6=24 |
| tyńda- | -r- | - ǵa, da, dan, men - | * myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |

analyses RKTC

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type K | suffixes type T | | suffixes type C | Number of endings |
| Last sound -consonant | | 14\*30=420 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | * dar- * der- * lar- * ler- * tar * ter | -ym, im  -yń,iń  -yńyz,ińiz  -y ,i | -ymyz, imiz;  -yńyz, ińiz;  --yńyz, ińiz;  -y ,i | 1)-  2)-dyń, diń, nyń, niń, tyń, tiń;  3)-a, e, ǵa, ge, qa,qe, na, ne;  4)-n, na, ne, dy, di, ty,ti;  5)-da, de, nda, nde, ta, te;  6)-dan, den, nan, nen, tan, ten;  7)-ben, men, ten |
| bar- | - ǵan - | -dar | -ym,yń,yńyz,y,ymyz - | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| kel- | -gen- | -der | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| at- | -qan- | -dar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| jet- | -ken- | -der | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| bar- | -atyn- | -dar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| kel- | -etin- | -der | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| jyla- | - ıtyn- | -dar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| bıle- | - ıtin- | -der | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| tyńda- | - uśy- | -lar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| tóle- | - uśi- | -ler | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| bar- | - ar - | lar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |
| kel- | -er- | -ler | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| soıle- | -r- | -ler | -im,iń,ińiz,i,imiz- | | * niń,diń;e,ge; di;de;nen,den; men,ben; | 5\*6=30 |
| tyńda- | -r- | -lar | -ym,yń,yńyz,y,ymyz- | | * nyń,dyń;a, ǵa; dy;da; nan,dan; men,ben; | 5\*6=30 |

analyses RKCJ

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | suffixes type R | suffixes type K | suffixes type C | suffixes type J | Number of endings |
| 14\*24=336 |
| examples | -ǵan, gen-  -qan, ken-  -atyn, etin-  -ıtyn, ıtin-  -uśy, uśi-  -ar,er-  -r- | * dar- * der- * lar- * ler- * tar * ter | 1)-  2)-dyń, diń, nyń, niń, tyń, tiń;  3)-a, e, ǵa, ge, qa,qe, na, ne;  4)- ny, ni, dy, di, ty,ti, n;  5)-da, de, nda, nde, ta, te;  6)-dan, den, nan, nen, tan, ten;  7)-ben, men, ten | J1)-myn,min, byn,bin; myz,miz,byz,biz;    J2)-syń; siń; syńdar, sińder;  J3)-syz; siz; syzdar, sizder; |
| bar- | - ǵan - | -dar | - ǵa, da, nan, men - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -gen- | -der | - ge,de,nen,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| at- | -qan- | -dar | - ǵa, da, nan, men - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| jet- | -ken- | -der | - ge,de,nen,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| bar- | -atyn- | -dar | - ǵa, da, nan, men, - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -etin- | -der | - ge,de,nen,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| jyla- | - ıtyn- | -dar | - ǵa, da, nan, men, - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| bıle- | - ıtin- | -der | - ge,de,nen,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| tyńda- | - uśy- | -lar | - ǵa, da, nan, men, - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| tóle- | - uśi- | -ler | - ge,de,nen,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| bar- | - ar - | lar | - ǵa, da, dan, men- | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |
| kel- | -er- | -ler | - ge,de,den,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| soıle- | -r- | -ler | - ge,de,den,men - | -min,siń,siz; miz, sińder, sizder; | 4\*6=24 |
| tyńda- | -r- | -lar | - ǵa, da, dan, men - | -myn,syń,syz; myz, syńdar, syzdar, | 4\*6=24 |

**2.3 Inferring of Endings for Verbal Adverbs (Kósemśe)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -a,e, ı- + verb-  -yp,ip,p- + verb- | -myn;pyn  -min;pin | -syń;  -siń; | -syz;  -siz; | -dy,ty  -di,ti | 6 |
| plural:  -myz;pyz  -miz;piz | plural:  -syńdar;  -sińder; | plural:  -syzdar;  -sizder; | plural:  -dy,ty  -di,ti |
| -ǵaly,geli,qaly,keli-  + verb- | -myn;pyn  -min;pin | -syń;  -siń; | -syz;  -siz; | - | 4 |
| -myz;pyz  -miz;piz | -syńdar;  -sińder; | -syzdar;  -sizder; | - |
|  |  |  |  |  | Total | 10 |

**2.4 Inferring of Endings for Moods (Raılar)**

Conditional mood (Śartty raı)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -ca, -ce, | -m; | -ń; | -ńyz;  -ńiz; | - | 8 |
| -ca, ce, | plural:  -q,k | plural:  -ńdar;  -ńder; | plural:  -ńyzdar;  -ńizder; | plural:  -  - | 8 |
|  |  |  |  |  | Total | 16 |

Imperative mood (Býıryq raı)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| examples | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| aıt-  jaz-  kúl-  bar-  kel-  qara-  tóle- | -aıyn;  -eıin;  -ıyn;  -ıin | - | -yńyz;  -ińiz;  -ńyz;  -ńiz | -syn;  -sin | 10 |
| plural:  -aıyq;  -eıik;  -ıyq;  -ıik | plural:  -yńdar;  -ińder;  -ńdar;  -ńder; | plural:  -yńyzdar;  -ińizder;  -ńyzdar;  -ńizder; | plural:  -syn;  -sin | 12 |
|  |  |  |  | Total | 22 |
| aıt- | aıyn; | - | -yńyz; | -syn; |  |
| kúl- | -eıin; | - | -ińiz; | -sin; |  |
| qara- | -ıyn; | - | -ńyz; | -syn; |  |
| tóle- | -ıin | - | -ńiz; | -sin; |  |
| aıt- | -aıyq; | -yńdar; | -yńyzdar; | -syn; |  |
| kel- | -eıik; | -ińder; | -ińizder; | -sin; |  |
| qara- | -ıyq; | -ńdar; | -ńyzdar; | -syn; |  |
| tóle- | -ıik | -ńder; | -ńizder; | -sin; |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Desirable mood (Qalau raı)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| examples | suffixes | 1 person | 2 person | 2 person (polit) | 3 person | service verb | suffixes | Number of endings |
| aıt-  kúl-  bar-  kel- | -ǵy, qy;  -ǵi, ki | -m; | -ń; | -ńyz;  -ńiz; | -sy;  -si | + kel- | -edi;  -di;  -gen;  -er;  -etin;  -ipti. | 4\*4=16 |
| -ǵy, qy;  -ǵi, ki | plural:  -myz,miz | plural:  -laryń;  -leriń; | plural:  -laryńyz;  -lerińiz; | plural:  -lary;  -leri | + kel- | -edi;  -di;  -gen;  -er;  -etin;  -ipti. | 4\*4=16 |
|  |  |  |  |  | Total |  |  | 32 |
| bar- | -ǵy; | -m,myz | -ń; laryń; | -ńyz; laryńyz; | -sy; lary; |  |  | 8 |
| aıt- | -qy; | -m,myz | -ń; laryń; | -ńyz; laryńyz; | -sy; lary; |  |  | 8 |
| kel- | -ǵi | -m,miz | -ń; leriń; | -ńiz; lerińiz; | -si, leri |  |  | 8 |
| kúl- | -ki | -m,miz | -ń; leriń; | -ńiz; lerińiz; | -si, leri |  |  | 8 |

**2.5 Inferring of Endings for Voices (Etister)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Type of voice | examples | suffixes of voice | suffixes  (jedel ótken śaq) | 1 person | 2 person | 2 person (polit) | 3 person | Number of endings |
| Reflexive (Ózdik) | ju-  kı-  tara- | -yn-  -in-  -n- | -dy,di- | -m; myz  -m; miz  -m; myz | -ń; ńdar,  -ń; ńder;  -ń; ńdar | -ńyz; ńyzdar  -ńiz; ńizder  -ńyz; ńyzder | -  -  - | 3\*7=21 |
| Passive (Yryqsyz) | ju-  kı-  tara- | -yl-  -il-  -l- | -dy,di; | -m; myz  -m; miz  -m; myz | -ń; ńdar,  -ń; ńder;  -ń; ńdar | -ńyz; ńyzdar  -ńiz; ńizder  -ńyz; ńyzder | -  -  - | 3\*7=21 |
| Joint (Ortaq) | jaz-  kór-  qara- | -ys-  -is-  -s- | -ty,ti; | -m; myz  -m; miz  -m; myz | -ń; ńdar,  -ń; ńder;  -ń; ńdar | -ńyz; ńyzdar  -ńiz; ńizder  -ńyz; ńyzder | -  -  - | 3\*7=21 |
| Compulsory (Ózgelik) | jaz-  kı-  aıt-  juyn-  kıin-  śap-  sep-  qara- | -ǵyz,giz;  -qyz,kiz;  -dyr,dir;  -tyr,tir;  -t; | -dy,di-  -ty,ti- | -m; myz  -m; miz | -ń; ńdar,  -ń; ńder; | -ńyz; ńyzdar  -ńiz; ńizder | -  - | 9\*7=63 |
|  |  |  |  |  |  |  | Total | 126 |

**3 INFERRING OF ENDINGS FOR DERIVATIVE ADVERBS, ADJECTIVES**

|  |  |  |
| --- | --- | --- |
| examples | suffixes | Number of endings |
| qazaq-śa; nemis-śe;  aqśa-laı; tike-leı;  jaz-daı; kúz-deı;  qys-taı; terek-teı;  son-śalyq;  mýn-śama;  astyrt-yn; ústirt-in;  śarua-qor;  qys-qy; iś-ki;  auz-ǵy; uı-gi;  syr-las; pikir-les;  mýń-das; til-des;  ýlt-tas; úmit-tes;  paıda-ly; áser-li;  saqal-dy; dám-di;  býlt-ty; ep-ti;  áser-lik;  audan-dyq;  azamat-tyq;  ásem-paz;  bilim-siz;  etik-śeń;  ýıqy-śyl;  alty- nśy;  segiz- inśi; | -śa,śe;  -laı,leı;  -daı,deı;  -taı,teı;  -śalyq;  -śama;  -yn,in;  -qor;  -qy,ki;  -ǵy,gi;  -las, les;  das,des;  -tas, tes;  -ly, li;  -dy, di;  -ty, ti;  -lyq, lik;  -dyq,dik;  -tyq,tik;  -paz;  -syz,siz;  -śań, śeń;  -śyl, śil;  -nśy, nśi;  -ynśy, inśi; | 2  2  2  2  1  1  2  1  2  2  2  2  2  2  2  2  2  2  2  1  2  2  2  2  2 |
|  | Total | 47 |

**COMPLETE SYSTEM KAZAKH ENDINGS: TOTAL – 4727**