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 KT (Plural – Possesive).

Inferring of endings for placement type KT (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 ty	pe KT (Plura	al – Possesive).
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	suffixes type K	suffixes type T		Number of endings
		Singular	Plural	
	- dar-	- ym, im	- ymyz, imiz	
	- der-	- yń, iń	- yńyz, ińiz	6*5=30
	- lar-	- yńyz, ińiz	- yńyz, ińiz	
	- ler-	- y, i	- y, i	
	- tar-			
examples	- ter-			
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 KC (Plural – Case).

Inferring of endings for placement type KC (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 KC (Plural – Case).

suffixes type K	suffixes type C		Number of endings
	1. nom.	-	

-	dar-	2. gen.	-dyń, diń	
-	der-	3. dat.	-ģa, ge	6*6=36
-	lar-	4. acc.	-dy, di	
	ler-	5. loc.	-da, de	
-	tar-	6. abl.	-dan, den	
-	ter-	7.instr.	-men	

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

Inferring of endings for placement type KJ (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 KJ (Plural-Personal).

suffixes type K	suffixes type J	Number of endings
- dar-	- myz, miz	
- der-	byz, biz	6*3=18
- lar-	- syńdar	
- ler-	sińder	
- tar-	- syzdar	
- ter-	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: $T^*C=(24 \text{ suffixes T})^*(\text{one suffix from each of 6 cases C}) = 144 placements TC. For choosing of suffixe in C for each suffixe of T is working harmony rules of the Kazakh language.$

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

		suffix	es type T		suff	Number	
	L	ast sound	(Sońgy dyk	oys)			of
	Dauysty	(vowels)	Dauyssyz(consonants			endings
)			
	Juan	Jiniśke	Juan	Jiniśke			
	(solid)	(soft)	(deaf)	(voiced)	1. nom.	-	
examp	T1)-	-	-ym,	-im, imiz	2. gen.	-dyń, diń, nyń, niń;	
les	m,myz;	m,miz;	ymyz;	-iń, ińiz;	3. dat.	-a, e, ga, ge, na, ne;	24*6=144
for T1	T2)-ń,	-ń,ńyz;	-yń,	-ińiz;	4. acc.	-n, na, ne, dy, di;	
	ńyz;	-ńiz	yńyz;	-i	5. loc.	-da, de, nda, nde;	
	T3)-ńyz;	-si	-yńyz;		6. abl.	-dan, den, nan,	
	T4)-sy;		-у			nen;	
					7.instr.	-ben, men	
ana-	-m-				2,3,4,5,6,7	-	6
						nyń,a,ga,dy,da,nan,	
						dan,men,ben;	

ini-	-m-			2,3,4,5,6,7	-	6
					niń,e,ge,di,de,nen,	
					den,men,ben;	
at-		-ym-		2,3,4,5,6,7	nyń,a,ga,dy,da,nan,	6
					dan,men,ben;	
pán-			-im-	2,3,4,5,6,7	-	6;
					niń,e,ge,di,de,nen,	
					den,men,ben;	

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
La	Last sound (Sońgy dybys)					endings
Dauysty(v	owels)	Dauyssy	z(consonants			links:
)				T1-J2:8;
Juan	Jiniśke	Juan	Jiniśke	Singular	Plural	T1-J3:8;
(solid)	(soft)	(deaf)	(voiced)			T2-J1:8;
				J1)-myn,byn,	-myz, miz,	T3-J1:8;
T1)-m,myz;	-m,miz;	-ym,	-im, imiz	pyn, min, bin,	byz, biz;	T4-J1:8;
T2)-ń, ńyz;	-ń,ńiz;	ymyz;	-iń, ińiz;	pin;	-	T4-J2:8;
T3)-ńyz;	-ńiz	-yń,	-ińiz;	J2)-syń, siń;	syńdar,sińde	T4-J3:8;
T4)-sy;	-si	yńyz;	-i	J3)-syz, siz;;	r;	Total:
		-yńyz;		J4) -	-syzdar,	8*7=56
		-у			sizder;	
					-	

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

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

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-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
cype it		Single Plural		chames

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

Example: ana-lar-yń-byz.

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

Inferring of endings for placement type KCJ (Plural – Case- Personal) present in the Table 2. Combinations in placements KCJ: $K^*C=(6 \text{ suffixes } K)^*(4 \text{ cases } C: \text{dat, loc, abl, inst})^*(3 \text{ singular+3 plural of J}) = 144 \text{ placements KC.}$ 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 KCJ (Plural – Case- Personal).

	ıffixes' ype K	suffixes' type C	suffixes' type J			Number of endings		
-	dar der	1) атау - 2) ilik- (-dyń, diń,	Singular Juan (solid) Jiniśke (soft)		Plural	K(6)*J(singular=		
-	lar ler	nyń, niń, tyń, tiń) – no use	-myn;	-min;	- myz, miz, byz,	3 + plural=3) K*J		
-	tar ter	3) barys -ga, ge,	-syń; -syz;	-siń; -siz;	biz;	C3) 6*6=36		
-	tei	qa,qe, na, ne 4) tabys -(-n, na, ne,	-3y2, -	-312,	-syńdar,sińder; -syzdar, sizder;	CE) C*C-2C		
		dy, di, ty,ti) – no use 5) jatys-da, de, nda,			-	C5) 6*6=36		
		nde, ta, te 6) śygys -dan, den,				C6) 6*6=36		
		nan, nen, tan, ten 7)komektes- men				C7) 6*6=36		
						Total - 144		

Example: ana-lar-ga-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: $T^*C^*J = (16 \text{ suffixes of T})^*$ (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 t	уре Т		suffixes' type	suffixes	type J	Number of
	Last s	sound (So	ń <mark>gy dyb</mark> y	/s)	С			endings
	Dauysty(vowels)	Dauys	syz(co	3) barys - a, e,			links:
			nson	ants)	ga, ge, qa,qe,			T1-C3-J:4*6=24;
	Juan	Jiniśke	Juan	Jiniśk	na, ne;	Singular	Plural	T2-C3-J:4*6=24;
	(solid)	(soft)	(deaf	е	5) jatys-da, de,			T3-C3-J:4*6=24;
)	(voic	nda, nde, ta,	J1)-myn,min;	-	T4-C3-J:4*6=24;
				ed)	te;	J2)-syń; siń;	myz,miz,by	
	T1)-m	-m	-ym	-im	6) śygys -dan,		z,biz;	T1-C5-J:4*6=24;
	T2)-ń	-ń	-yń	-iń	den, nan, nen,	J3)-syz; siz;	-syńdar,	T2-C5-J:4*6=24;
	T3)-ńyz	-ńiz	-yńyz	-ińiz	tan, ten;		sińder;	T3-C5-J:4*6=24;
	T4)-sy	-si	-у	-i	7)komektes-		-syzdar,	T4-C5-J:4*6=24;
					men;		sizder;	
								T1-C6-J:4*6=24;
exam								T2-C6-J:4*6=24;
ples								T3-C6-J:4*6=24;
								T4-C6-J:4*6=24;
								T1 C7 1.4*C-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;
								14-07-3.4 0-24,
								Total: 96*4=384
ana-	-m, ń,				-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
	ńyz, sy-							
ini-		-m,ń,			-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
		ńiz,si-						
at-			-ym,		-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
			yń,					
			yńyz,					
			у-					
pán-				-	-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
				im,iń				
				,ińiz,i				
				-				

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).

Table Tabl		suffixes	suffixes	type T	suffixes' type C	suffixes	type J	Number of endings
Dauyssyz(conson ants)		type K	Last soun	d (Sońgy				
Authorized Singular Singula			dyb	ys)				
Juan (deaf)			Dauyssyz	(conson	3) barys - a, e, ģa,			links:
(deaf)			ant	:s)	ge, qa,qe, na, ne;			K1-T-C-J:4*4*6=96;
Main			Juan	Jiniśke	5) jatys-da, de, nda,	Singular	Plural	K2-T-C-J: 4*4*6=96;
K1-dar; K2-der; K2-der; K3-lar; T1-ym -im -in T3-yñ/yz T4-y -i T1-ym T3-yñ/yz T4-y -i T3-yñ/yz T4-y T3-yñ/yz T4-y T3-yñ/yz T5-yz			(deaf)	(voice				·
K2-der; K3-lar; K3-lar; K4-ler; ES K3-lar; K6-ter. T2)-yń -iń -ińiz -ińiz T3-yńyz T4-y -iń T3-yńyz -iń T3-yńyz T4-y -iń T3-yńyz T4-y -iń T3-yńyz T4-y T4-y -iń T3-yńyz T4-y T5-y				d)				1
exa mpl K3-lar; K4-ler; K5-tar; K6-ter.		K1-dar;	T1-ym	-im			•	1
mpl K4-ler; K5-tar; K6-ter. T4-y -i J3)-syz; siz; -syzdar, sizder; Total: 96*6=576 ana -lar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 ana -lar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 ana -lar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 ana -lar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 ana -lar -ym, yń, yńyz,y		K2-der;	T2)-yń	-iń	7)komektes- men;	J2)-syń; siń;		K6-T-C-J: 4*4*6=96;
es K5-tar; K6-ter. sizder; Total: 96*6=576 ana -lar	exa	· ·					· ·	
ana -lar -ym, yń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 -tar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 san -dar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 ortter -im, iń, -3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 iniler -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96	mpl	I -	T4-y	-i		J3)-syz; siz;		
ana -lar -ym, yń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 attar -ym, yń, yńyz,y- san -dar -ym, yń, yńyz,y- órtter -im, iń, ińiz,i- iniler -im, iń, ińiz,i- pán -der -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96	es	· ·					sizder;	Total: 96*6=576
- yńyz,y-		K6-ter.						
- yńyz,y-								
- yńyz,y-								
- yńyz,y-								
- yńyz,y- attar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 san -dar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 ortter -im, iń, -3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 iniler -im, iń, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96								
- yńyz,y- attar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 san -dar -ym, yń, yńyz,y3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 ortter -im, iń, -3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 iniler -im, iń, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96								
- yńyz,y-								
- yńyz,y-								
- yńyz,y-								
- yńyz,y-								
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, ińz,i- -3,5,6,7- -J1,J2,J3 -1,J2,J3 4*4*6=96 ini- -ler -im, iń, ińz,i- -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	ana	-lar	-ym, yń,		-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, iń; -3,5,6,7- -J1,J2,J3 -1,J2,J3 4*4*6=96 ini- -ler -im, iń, iń; -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	-		yńyz,y-					
san -dar -ym, yń, yńyz,y- -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96 órt- -ter -im, iń, iń; -3,5,6,7- -J1,J2,J3 -1,J2,J3 4*4*6=96 ini- -ler -im, iń, iń, ińiz,i- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	at-	-tar			-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
- yńyz,yim, iń, -3,5,6,7J1,J2,J3 -1,J2,J3 4*4*6=96 iniler -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7J1,J2,J3 -J1,J2,J3 4*4*6=96			yńyz,y-					
órt- -ter -im, iń, iń; ińiz,i- -J1,J2,J3 -1,J2,J3 4*4*6=96 ini- -ler -im, iń, iń; ińiz,i- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	san	-dar	-ym, yń,		-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
órt- -ter -im, iń, iń; ińiz,i- -J1,J2,J3 -1,J2,J3 4*4*6=96 ini- -ler -im, iń, iń; ińiz,i- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	-		yńyz,y-					
ini- -ler -im, iń, iń, ińz,i- -J1,J2,J3 -J1,J2,J3 4*4*6=96 pán -der -im, iń, -3,5,6,7- -J1,J2,J3 -J1,J2,J3 4*4*6=96	órt-	-ter		-im, iń,	-3,5,6,7-	-J1,J2,J3	-1,J2,J3	4*4*6=96
ińiz,i-				ińiz,i-				
ińiz,i-	ini-	-ler		-im, iń,	-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
	pán	-der		-im, iń,	-3,5,6,7-	-J1,J2,J3	-J1,J2,J3	4*4*6=96
	-			ińiz,i-				

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-	-myn, min	-syń, siń	-syz, siz	-	8 (different)

1 1		myz, miz	-syz, siz	-syz, siz		
	týr-					
J'	úr-				Total	8

Complex Type Present tense

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

Transitive present tense (Auspaly osy śaq)

examples	suffixes	1 person	2 person	2	3	Number
				person	person	of
				(polit)		endings
jaz-	-a,e,ı-	-myn,min	-syń, siń	-syz, siz	-dy,di	3*4=12
kúl-						
bar-						
kel-		plural:	plural:	plural:	plural:	
qara-		-myz, miz	-syńdar,	-syzdar,	-dy,di	3*4=12
			sińder	sizder		
					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
ait- ket- jaz- kúl- bar-	-ty,dy - -ti,di -	-m; -m;	-ń; -ń;	-ńyz; -ńiz;	-	8 8
kel- qara-	-ty,dy - -ti,di -	plural: -q; -k;	plural: -ńdar; -ńder;	plural: -ńyzdar; -ńizder;	plural: -	8
					Total	32

Negative type (Bolymsyz túri)

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

Previous past tense (býryngy ótken śaq)

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

Negative type (Bolymsyz túri): created by + joq-(persons), therefore are not accounted. Example: bargan 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	Number of
					person	endings
aıt-	-yp, p -	-pyn;	-syń;	-syz;	-ty	8
jaz-	-ip, p -	-pin;	-siń;	-siz;	-ti	8
kúl-						
bar-						
kel-						
qara-	-ур, р -	plural:	plural:	plural:	plural:	8
	-ур, р -	-pyz;	-syńdar;	-syzdar;	-ty;	8
		-piz;	-sińder;	-sizder;	-ti;	
					Total	32

Negative type (Bolymsyz túri):

examples	suffixes	1 person	2 person	2 person (polit)	3	Number of
					person	endings
bar-	-ma,ba,pa - p -	-pyn;	-syń;	-syz;	-ty	12
jaz-	-me,be,pe - p -	-pin;	-siń;	-siz;	-ti	12
aıt-						
kúl-						
kel-						

júz- ket-	-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	Number of
					person	endings
aıt-	-atyn, ıtyn -	-myn;	-syń;	-syz;	-	8
jaz-	-etin, ıtin -	-min;	-siń;	-siz;	-	8
kúl-						
bar-	-atyn, ıtyn -	plural:	plural:	plural:	plural:	
kel-	-etin, ıtin -	-byz;	-syńdar;	-syzdar;	-	8
qara-		-biz;	-sińder;	-sizder;	-	8
					Total	32

Negative type (Bolymsyz túri):

examples	suffixes	1 person	2 person	2 person (polit)	3	Number of
					person	endings
bar-	-ma,ba,pa - ıtyn -	-myn;	-syń;	-syz;	-	12
jaz-	-me,be,pe - ıtin -	-min;	-siń;	-siz;	-	12
aıt-						
kúl-	-ma,ba,pa - ıtyn -	plural:	plural:	plural:	plural:	
kel-	-me,be,pe - ıtin -	-byz;	-syńdar;	-syzdar;	-	12
júz-		-biz;	-sińder;	-sizder;	-	12
ket-						
					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	Number of
					person	endings
aıt-	-ar, r -	-myn;	-syń;	-syz;	-	8
jaz-	-er, r -	-min;	-siń;	-siz;	-	8
kúl-						
bar-		plural:	plural:	plural:	plural:	
kel-	-ar, r -	-myz;	-syńdar;	-syzdar;	-	8
qara- tóle-	-er, r -	-miz;	-sińder;	-sizder;	-	8
tole-						
					Total	32

Example: ait-ar-myn.

Negative type (Bolymsyz túri):

examples	suffixes	1 person	2 person	2 person (polit)	3	Number of
					person	endings

aıt-	-ar, r + emes-	-pyn;	-syń;	-syz;	-	5
jaz- kúl-	-er, r + emes-	-pin;	-siń;	-siz;	-	5
bar- kel-						
qara- tóle-	-ar, r + emes-	plural: -pyz;	plural: -syńdar;	plural: -syzdar;	plural: -	5
	-er, r + emes-	-piz;	-sińder;	-sizder;	-	5
					Total	20

Example: ait-ar emes-pyn.

Intent future tense (Maqsatty keler śaq)

examples	suffixes	1 person	2 person	2 person (polit)	3	Number of
					person	endings
aıt-	-maq,baq,paq -	-pyn;	-syń;	-syz;	-śy	12
jaz-	-mek,bek,pek -	-pin;	-siń;	-siz;	-śi	12
kúl-						
bar-						
kel-						
qara-		plural:	plural:	plural:	plural:	
tóle-	-maq,baq,paq -	-pyz;	-syńdar;	-syzdar;	-śy	12
	-mek,bek,pek -	-piz;	-sińder;	-sizder;	-śi	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-	-maq, baq, paq + emes- -mek, bek, pek + emes-	-pyn; -pin;	-syń; -siń;	-syz; -siz;	-śy emes -śi emes	6
qara- tóle-	-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	Number of
					person	endings
aıt-	-a, ı-	-myn;	-syń;	-syz;	-dy	8
jaz-	-е, I-	-min;	-siń;	-siz;	-di	8
kúl-						
bar-						
kel-						

qara- tóle-	-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	Number of
					person	endings
aıt-	-ba, ma, pa- ı-	-myn;	-syń;	-syz;	-dy	12
jaz-	-be, me, pe- ı-	-min;	-siń;	-siz;	-di	12
kúl-						
bar-						
kel-						
qara-		plural:	plural:	plural:	plural:	
tóle-	-ba, ma, pa- ı-	-myz;	-syńdar;	-syzdar;	-dy	12
	-be, me, pe- ı-	-miz;	-sińder;	-sizder;	-di	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
examples	- gan, gen- - qan, ken- - atyn, etin - ıtyn, ıtin- - usy, usi- - ar,er,r-	- dar, der - lar, ler	14
bar-	- gan -	- dar	
kel-	-gen-	- der	
at-	-qan-	- dar	
jet-	-ken-	- der	
bar-	-atyn-	- dar	
kel-	-etin-	- der	
jyla-	- ıtyn-	- dar	
bile-	- ıtin-	- der	
tyńda-	- uśy-	- lar	
tóle-	- uśi-	- ler	
bar-	- ar -	- lar	
kel-	-er-	- ler	
soile-	-r-	- ler	
tyńda-	-r-	- lar	

	suffixes type R	suffixes	Number of	
		Last sound	endings	
		Singular	Plural	
	- gan, gen- - qan, ken- - atyn, etin - ıtyn, ıtin- - usy, usi-	- ым (ym), iм(im) - ың (yń), iң(iń)	- ымыз (утуг), іміз(ітіг) - ыңыз (уńуг), іңіз(іпіг)	14*5=70
examples	- ar,er - r	- ыңыз (уńуz), іңіз(іńіz) - ы (у), і(і)	- ыңыз (уńуz), іңіз(іńіz) - ы (у), (і)	
bar-	- gan -	- 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
bile-	- 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
soile-	-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	
examples	- gan, gen qan, ken atyn, etin - ityn, itin usy, usi ar,er - r		dyń, diń, nyń, niń, tyń, tiń; -a, e, ga, 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	14*6=84	
bar-	- gan -	-	nyń, ga,dy,da,nan,men	6	
kel-	-gen-	-	niń,ge,di,de,nen,men	6	
at-	-qan-	-	nyń, ġa,dy,da,nan,men	6	
jet-	-ken-	-	niń,ge,di,de,nen,men	6	
bar-	-atyn-	-	nyń, ga,dy,da,nan,men	6	
kel-	-etin-	-	niń,ge,di,de,nen,men	6	
jyla-	- ıtyn-	-	nyń, ga,dy,da,nan,men	6	
bile-	- ıtin-	-	niń,ge,di,de,nen,men	6	
tyńda-	- uśy-	-	nyń, ġa,dy,da,nan,men	6	
tóle-	- uśi-	-	niń,ge,di,de,nen,men	6	

bar-	- ar -	- dyń, ga,dy,da, dan,men 6
kel-	-er-	- diń, ge,di,de,den,men 6
soile-	-r-	- diń, ge,di,de,den,men 6
tyńda-	-r-	- dyń, ga,dy,da, dan,men 6

analyses RJ

	suffixes type R	suffixes type J	Number of endings	
- gan, gen qan, ken atyn, etin - ityn, itin usy, usi- examples - ar,er - r		J1)-myn,min, byn,bin; myz,miz,byz,biz; J2)-syń; siń; syńdar, sińder; J3)-syz; siz; syzdar, sizder;	14*6=84	
bar-	- ģan -	-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	
bile-	- 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	
soile-	-r-	-miń,siń,siz,biz,sińder,sizder;	6	
tyńda-	-r-	-myń,syń, syz, byz, syńdar, syzdar;	6	

analyses RKT

	suffixes type	suffixes type K	suffixe	Number	
	R		Last sound	-consonant	of endings
			Singular	Plural	
	-gan, gen- -qan, ken-	- dar- - der-	- ым (ym), iм(im)	- ымыз (утуz), іміз(ітіz)	14*5=70
	-atyn, etin- -ıtyn, ıtin-	- lar- - ler-	- ың (yń), ің(iń)	- ыңыз (уńуz), іңіз(ińiz)	
ex	-uśy, uśi- -ar,er-	- tar- - ter-	- ыңыз (yńyz), іңіз(ińiz)	- ыңыз (уńуz), іңіз(ińiz)	
а	-r-		- ы (у), i(i)	- ы (у), (i)	
m					
pl					
es					
bar-	- gan -	-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
bile-	- 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
soile-	-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
ex a m pl es	-gan, gen- -qan, ken- -atyn, etin- -ityn, itin- -usy, usi- -ar,er- -r-	- dar- - der- - lar- - ler- - tar- - ter-		1)- 2)-dyń, diń, nyń, niń, tyń, tiń; 3)-a, e, ga, 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	14*6=84
bar-	- gan -	-dar-	-	dyń, ga, dy, da, dan, men	6
kel-	-gen-	-der-		diń, ge, di, de, den,men	6
at-	-qan-	-dar-	ı	dyń, ga, dy, da, dan, men	6
jet-	-ken-	-der-	ı	diń, ge, di, de, den,men	6
bar-	-atyn-	-dar-	ı	dyń, ga, dy, da, dan, men	6
kel-	-etin-	-der-	ı	diń, ge, di, de, den,men	6
jyla-	- ıtyn-	-dar-	-	dyń, ga, dy, da, dan, men	6
bile-	- ıtin-	-der-	-	diń, ge, di, de, den,men	6
tyńda-	- uśy-	-lar-	-	dyń, ga, dy, da, dan, men	6
tóle-	- uśi-	-ler-	-	diń, ge, di, de, den,men	6
bar-	- ar -	-lar-	-	dyń, ga, dy, da, dan, men	6
kel-	-er-	-ler-	-	diń, ge, di, de, den,men	6
soile-	-r-	-ler-	-	diń, ge, di, de, den,men	6
tyńda-	-r-	-lar-	-	dyń, ga, dy, da, dan, men	6

analyses RKJ

suffixes type	suffixes type K	suffixes type J	Number
R			of
			endings

	-gan, gen-	- dar-		J1)-myn,min, byn,bin; myz,miz,byz,biz;	1140 10
	-qan, ken-	- der-			14*3=42
	-atyn, etin-	- lar-			
	-ıtyn, ıtin-	- ler-		J2)-syń; siń; syńdar, sińder;	
	-uśy, uśi-	- tar-			
ex	-ar,er-	- ter-			
а	-r-			J3)-syz; siz; syzdar, sizder;	
m					
pl					
es					
bar-	- gan -	-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
bile-	- 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-	1	miz, sińder, sizder;	3
soile-	-r-	-ler-	-	miz, sińder, sizder;	3
tyńda-	-r-	-lar-	-	myz,syńdar,syzdar;	3

analyses RTC

	suffixes type R	suffixes Last sound			suffixes type C	Number of endings
		consonant	_			
ex a m pl es	-gan, gen- -qan, ken- -atyn, etin- -ityn, itin- -usy, usi- -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, ga, 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	14*30=420
bar-	- gan -	-ym,yń,yńyz	z,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	z,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	z,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	z,y,ymyz-	ı	nyń,dyń;a;dy;da;nan,dan;men,ben;	5*6=30
bile-	- ıtin-	-im,iń,ińiz,i,	imiz-	-	niń,diń;e;di;de;nen,den;men,ben;	5*6=30
tyńda-	- uśy-	-ym,yń,yńyz	z,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	z,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
soile-	-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
ex	-gan, gen- -qan, ken- -atyn, etin- -ityn, itin- -usy, usi- -ar,er-	1)- 2)-dyń, diń, nyń, niń, tyń, tiń; 3)-a, e, ga, 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;	J1)-myn,min, byn,bin; myz,miz,byz,biz; J2)-syń; siń; syńdar, sińder;	14*24=336
a m pl es	-r-	7)-ben, men, ten	J3)-syz; siz; syzdar, sizder;	
bar-	- gan -	- ga, 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-	- ga, 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-	- ga, 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-	- ga, da, nan, men, -	- myn,syń,syz; myz, syńdar, syzdar,	4*6=24
bile-	- ıtin-	- ge,de,nen,men -	- miz,sińder,sizder; miz, sińder, sizder;	4*6=24
tyńda-	- uśy-	- ga, 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 -	- ga, 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
soile-	-r-	- ge,de,den,men -	- miz,sińder,sizder; miz, sińder, sizder;	4*6=24
tyńda-	-r-	- ģa, da, dan, men -	- myn,syń,syz; myz, syńdar, syzdar,	4*6=24

analyses RKTC

	suffixe	suffixes type K	suffixes type T	suffixes type C	Number of endings
	s type R	туре к	Last sound - consonant		enunigs
ex a m pl es	-gan, gen- -qan, ken- -atyn, etin- -ityn, itin- -usy, usi- -ar,er-	- dar- - der- - lar- - ler- - tar - ter	-ym, im -yń,iń imiz; -yńyz,ińiz -y ,i ińiz;yńyz, ińiz;yńyz, ińiz; -y ,i	1)- 2)-dyń, diń, nyń, niń, tyń, tiń; 3)-a, e, ga, 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	14*30=420
bar-	- ģan -	-dar	-ym,yń,yńyz,y,ymyz -	 nyń,dyń;a, ga; 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, ga; 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, ga; 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, ga; dy;da; nan,dan; men,ben; 	5*6=30
bile-	- 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, ga; 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, ga; 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
soile-	-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, ga; 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
	-gan, gen- -qan, ken- -atyn, etin- -ityn, itin-	- dar- - der- - lar- - ler-	1)- 2)-dyń, diń, nyń, niń, tyń, tiń; 3)-a, e, ga, ge, qa,qe, na,	J1)-myn,min, byn,bin; myz,miz,byz,biz;	14*24=336
ex a m	-uśy, uśi- -ar,er- -r-	- tar - ter	ne; 4)- ny, ni, dy, di, ty,ti, n; 5)-da, de, nda, nde, ta, te;	J2)-syń; siń; syńdar, sińder;	
pl es			6)-dan, den, nan, nen, tan, ten; 7)-ben, men, ten	J3)-syz; siz; syzdar, sizder;	
bar-	- gan -	-dar	- ga, 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	- ga, 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	- ga, 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	- ga, da, nan, men, -	-myn,syń,syz; myz, syńdar, syzdar,	4*6=24
bile-	- ıtin-	-der	- ge,de,nen,men -	-min,siń,siz; miz, sińder, sizder;	4*6=24
tyńda-	- uśy-	-lar	- ga, 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	- ga, 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
soile-	-r-	-ler	- ge,de,den,men -	-min,siń,siz; miz, sińder, sizder;	4*6=24
tyńda-	-r-	-lar	- ģa, 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	Number of
					person	endings
aıt-	-a,e, ı- + verb-	-myn;pyn	-syń;	-syz;	-dy,ty	
jaz-		-min;pin	-siń;	-siz;	-di,ti	6
kúl-	-yp,ip,p- + verb-					
bar-						
kel-		plural:	plural:	plural:	plural:	
qara-		-myz;pyz	-syńdar;	-syzdar;	-dy,ty	
tóle-		-miz;piz	-sińder;	-sizder;	-di,ti	
10.0		11112, 112	Jillaci,	312001,	ai,ci	
	-galy,geli,qaly,keli-	-myn;pyn	-syń;	-syz;	-	4
	+ verb-	-min;pin	-siń;	-siz;		
		/ /	,	,		
		-myz;pyz	-syńdar;	-syzdar;	-	
		-miz;piz	-sińder;	-sizder;		
		/1-	,	,		
					Total	10

2.4 Inferring of Endings for Moods (Raılar)

Conditional mood (Śartty raı)

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

Imperative mood (Býıryq raı)

examples	1	2 person	2 person (polit)	3	Number of
	person			person	endings
aıt-	-aıyn;	-	-yńyz;	-syn;	10
jaz-	-eıin;		-ińiz;	-sin	
kúl-	-ıyn;		-ńyz;		
bar-	-ıin		-ńiz		
kel-					
qara-					
tóle-					

	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)

exam ples	suffixes	1 person	2 person	person (polit)	3 person	service verb	suffixes	Number of endings
ait- kúl- bar- kel-	-ģy, qy; -ģi, ki	-m;	-ń;	-ńyz; -ńiz;	-sy; -si	+ kel-	-edi; -di; -gen; -er; -etin; -ipti.	4*4=16
	-ģy, qy; -ģi, 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-	-ģy;	-m,myz	-ń; laryń;	-ńyz; laryńyz;	-sy; lary;			8
aıt-	-qy;	-m,myz	-ń; laryń;	-ńyz; laryńyz;	-sy; lary;			8
kel-	-ģi	-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	exampl	suffixes of	suffixe	1	2	2 person	3	Number
voice	es	voice	s (jedel ótken śaq)	person	person	(polit)	person	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
Compuls ory (Ózgelik)	jaz- kı- aıt- juyn- kıin- śap- sep- qara-	-gyz,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;	-śa,śe;	2
aqśa-laı; tike-leı;	-laı,leı;	2
jaz-daı; kúz-deı;	-daı,deı;	2
qys-tai; terek-tei;	-taı,teı;	2
son-śalyq;	-śalyq;	1
mýn-śama;	-śama;	1
astyrt-yn; ústirt-in;	-yn,in;	2
śarua-qor;	-qor;	1
qys-qy; iś-ki;	-qy,ki;	2
auz-ģy; uı-gi;	-ģy,gi;	2
syr-las; pikir-les;	-las, les;	2
mýń-das; til-des;	das,des;	2
ýlt-tas; úmit-tes;	-tas, tes;	2
paıda-ly; áser-li;	-ly, li;	2
saqal-dy; dám-di;	-dy, di;	2
býlt-ty; ep-ti;	-ty, ti;	2
áser-lik;	-lyq, lik;	2

audan-dyq;	-dyq,dik;	2
azamat-tyq;	-tyq,tik;	2
ásem-paz;	-paz;	1
bilim-siz;	-syz,siz;	2
etik-śeń;	-śań, śeń;	2
ýıqy-śyl;	-śyl, śil;	2
alty- nśy;	-nśy, nśi;	2
segiz- inśi;	-ynśy, inśi;	2
	Total	47

COMPLETE SYSTEM KAZAKH ENDINGS: TOTAL – 4727