



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

Reference No:

Revision History:

Name	Change Date	Version	Description of Changes
Shanza Nayyer	4 th Nov, 04	0.1	Created
Zunaira Malik	14 th June, 05	0.2	New Release
Shanza Nayyer	29 th June, 05	0.3	SEM_TYPE added to quantifier

POS ID: EPOS110

Part of Speech Name: Quantifier

Part of Speech String: quant

Lexical Entry Template:

<word>: quant, ^QFORM = 'logical form of word', ^NUM = {SG,PL}, ^NCOUNT = {POS, NEG}, ^QTYPE = {GEN, NONGEN}, ^SEM_TYPE = {COMPARATIVE, SUPERLATIVE}.

Sample Lexical Entry:

some: quant, ^QFORM = 'some', ^NUM = {PL,SG}, ^NCOUNT = POS, ^QTYPE = {GEN,NONGEN}.

Description: Quantifiers are words that precede and modify nouns. They tell us how many or how much. [1]

The following features are attached to a quantifier:

NUM is used to check the agreement of the NUM of quantifier with that of the following head noun.

NUM (Number) can be: SG (singular): *Example: some water*
PL (plural): *Example: some girls Vs *some girl*
Both: *Example: some girls, some water*
It cannot be null.

QTYPE can be: GEN (genitive): *Example: some of, bit of (all quantifiers coming with "of")*
NONGEN (non-genitive): *Example: any, most (quantifiers coming without "of")*
Both: *Example: some books, some of the books*
It cannot be null.

NCOUNT is going to be used to check the agreement of quantifier with the following head noun.

NCOUNT can be: POS (positive): *Example: many books Vs *many water*
NEG (negative): *Example: some water*
It cannot be null or both (mass and count).

SEM_TYPE is used when there is comparative and superlative form of quantifier.

SEM_TYPE can be: COMPARATIVE: *Example: Fewer , more*
SUPERLATIVE: *Example: Fewest , most*

Examples: i) I bought many books
ii) All the men were arrested
iii) I bought some of the books



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

POS Status: Active

Reference:

- [1] <http://webster.commnet.edu/grammar/determiners/determiners.htm>
- [2] http://www.learn4good.com/languages/evrd_grammar/quantifier.htm
- [3] Penn-Helsinki Parsed Corpus of Middle English, Second Edition <http://www-users.york.ac.uk/~lang18/Documentation/pos-labels.htm>
- [4] <http://www.xrce.xerox.com/competencies/content-analysis/demos/doc/pos-eng-2.html>
- [5] Dr. Shahbaz Arif, Head, English Language and Linguistics, University of the Punjab, Lahore, Pakistan

Related Rules: EGR136, EGR137

Related POS: -

Replaces: -

Reason: new release, change of NUM to NUM.

Replaced by: -

Reason: -



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

Analysis: Following is the in-depth analysis of the rule.

Analysis: Selecting the correct quantifier depends on the distinction between Count and Non-Count Nouns following them. A list of quantifiers which can be used with count nouns, non-count (mass) nouns and both is discussed below.

NOTE: Generally, the indefinite article does not follow the quantifiers in the genitive form (i.e. followed by “of”). They are usually followed by definite articles, demonstratives, pronoun-genitive or a noun genitive phrase. Hence, only in special cases, this feature has been stated in the “feature” column for the genitive forms. Otherwise, it is understood to exclude the possibility of having a subsequent indefinite article.

COUNT NOUNS:

Quantifier	Feature / Constraints	Remarks	Examples
Many	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]: Must not be followed by a determiner. It is yet to decide whether “many an apple” is correct or not.	1) There are <u>many</u> people in Poland, <u>more</u> in India, but the <u>most</u> people live in China
More	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]: Comparative degree of ‘many’. Must not be followed by a determiner.	
Most	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]: Superlative degree of ‘many’. Must not be followed by a determiner.	
A few (of)	Plural noun follows [5]	“A few” has positive connotation, however, “a few of” may or may not have it.	1) I’ve got <u>a few</u> friends 2) These are <u>a few</u> of my favorite things 3) <u>A few of</u> our valued clients said that 4) <u>A few of</u> a million postcards
Few	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]: negative connotation	1) I’ve got <u>few</u> friends
Fewer	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]:	1) <u>Fewer</u> girls participated in the competition this year than last year 2) <u>Fewer</u> people
Fewest	Non-genitive + Plural noun follows [5]	Graded Quantifier [2]	1) Australia has the <u>fewest</u> people per square kilometer
Several (of)	Plural noun follows [5]		1) <u>Several</u> books were torn 2) <u>Several of</u> my clients have asked me this
A couple of	Genitive + Plural noun follows [5]		1) <u>a couple of</u> boys were ill 2) * a couple boys



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

None of	Genitive + Plural noun follows [5]		1) <u>none of</u> the/those/these girls agreed 2) * none of a girl
A number of	Genitive + Plural noun follows		1) <u>a number of</u> (my/these/those/the) pages were torn
A large number of	Genitive + Plural noun follows		1) <u>a large number of</u> (my/these/those/the) pages were torn
A great number of	Genitive + Plural noun follows		1) <u>a great number of</u> (my/these/those/the) pages were torn
A majority of	Genitive + Plural noun follows		1) <u>a majority of</u> the/this/that/our population agrees
Pound(s) (of)	Plural noun follows	Future work	1) one <u>pound (of)</u> biscuits
Kilogram(s) (of)	Plural noun follows	Future work	1) one <u>kilogram (of)</u> potatoes
Gram(s) (of)	Plural noun follows	Future work	1) 13 <u>grams of</u> lead
Dozen	Non-genitive + Plural noun follows	Must not be followed by a determiner. Future work	1) one <u>dozen</u> oranges 2) * one dozen the/those/these oranges
Each (of)	Genitive form can be followed by any determiner (including indefinite article) + Non-genitive form: singular noun follows [5] + Genitive form: Plural noun follows	Special case of genitive which can be followed by an indefinite article as well (see NOTE at the beginning)	1) <u>Each</u> girl is upset 2) Facts about <u>each of the/those/these</u> states can be found here. 3) First record the ages of <u>each of a</u> selected household's adults on a grid.
Every	Non-genitive + Singular noun follows [5]	"Every one of the book" can be said. Do later.	1) <u>Every</u> book is torn
Both (of)	Plural noun follows [5]		1) <u>both</u> girls looked at each other 2) <u>both of us</u> agree
Half	Non-genitive + Singular noun follows	No determiner follows. In [half cup] "cup" is behaving like a quantifier. See future work	1) I had <u>half</u> cup of tea 2) I had <u>half</u> glass of water
Half of	Genitive + any determiner can follow + Plural or Singular noun follows	Special case of genitive which can be followed by an indefinite article as well (see NOTE at the beginning)	1) <u>half of the</u> trees 2) <u>half of the</u> pie 3) <u>half of a</u> pie
Many of	Genitive + Plural		1) <u>many of the</u>



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

	noun follows		flowers had wilted
More of	Genitive + Plural noun follows	Can it occur with definite article?	1) it is <u>more of a</u> headache than a book 2) Search <u>more of the</u> web
Most of	Genitive + Plural noun follows	Most of is always followed by the definite article or no article	1) <u>most of</u> the girls disagreed 2) <u>most of</u> them are good 3) * <u>most of a</u> girl
One	Non-Genitive + Singular noun follows [5]	Future work	1) <u>one</u> girl is upset
One of the	Genitive + Plural noun follows [5]	Future work	1) <u>one of</u> the girls is upset

NON-COUNT NOUNS:

Quantifier	Feature / Constraints	Remarks	Examples
Much		Graded Quantifier [2]	1) <u>Much</u> time and money is spent on education, <u>more</u> on health services but the <u>most</u> is spent on national defense. [2]
More		Graded Quantifier [2]: Comparative degree of 'much'	
Most		Graded Quantifier [2]: Superlative degree of 'much'	
A little	Non-genitive	Positive connotation	1) I have a little experience [1]
Little	Non-genitive	Graded Quantifier [2]: Negative connotation	1) I have little experience [1]
Less		Graded Quantifier [2]	1) she had <u>less</u> time to study than I had [2]
Least		Graded Quantifier [2]	1) give that dog the <u>least</u> opportunity and it will bite you [2]
A bit (of)			1) I was <u>a bit</u> upset 2) I have <u>a bit of</u> experience in this field
A great deal of	Genitive		1) This will cause <u>a great deal of</u> discomfort
A large amount of	Genitive		1) <u>A large amount of</u> water was thrown at us
A large quantity of	Genitive		1) She drank <u>a large quantity of</u> milk



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

Liter (of)	Can be both singular and plural	Will be preceded by a number or a determiner. If the non-genitive form is used it will always be plural, but if genitive form is used it can be singular or plural.	1) She bought 12 <u>liter</u> milk bottle 2) She bought 12 <u>liters of</u> milk
Much of	Genitive		1) <u>Much of</u> my work is left
A little bit (of)			1) She has <u>a little bit of</u> experience 2) She is <u>a little bit</u> upset
Half of	Genitive		1) <u>Half of</u> the milk is drinkable 2) * Half of a milk
Enough of	Genitive		1) I have had <u>enough of</u> this non-sense.

BOTH (either a plural count noun or a non-count noun follows):

Quantifier	Feature / Constraints	Remarks	Examples
All (of)			1) <u>All (of)</u> the trees/dancing [1]
Some	Non-genitive	Will not be followed by a determiner	1) <u>some</u> trees/dancing [1]
Some of	Genitive		1) <u>some of</u> the/these/those/my books/dancing
Most of	Genitive		1) <u>Most of</u> the/these/those/my girls did not agree
Enough	Non-genitive	Will not be followed by a determiner	1) There is <u>enough</u> bread for lunch [2] 2) <u>Enough</u> work for today 3) I don't have <u>enough</u> potatoes to make the soup [5]
A lot of	Genitive		1) <u>A lot of</u> trees/dancing [1] 2) They also absorbed <u>a lot of</u> the local culture 3) <u>A lot of a</u> neurologist's job is seeing how people move their hands
Lots of	Genitive		1) <u>Lots of</u> trees/dancing [1] 2) In the new version <u>lots of the</u> small bugs in the previous version have been removed
Plenty of	Genitive		1) <u>Plenty of</u>



Center for Research in Urdu Language Processing
National University of Computer and Emerging Sciences, Lahore Pakistan

			trees/dancing [1] 2) <u>Plenty of</u> the writers returned
A lack of	Genitive		1) <u>A lack of</u> trees/dancing [1]
Any		Any is used in questions and with 'not' in negative statements [2] It is not followed by any determiner	1) Have you got <u>any</u> tea [2] 2) You didn't give me <u>any</u> tea [2] 3) She didn't have <u>any</u> money [2] 4) I couldn't find <u>any</u> books [2]
Any of	Genitive + definite article / demonst / genitive pronoun follow		1) Have you seen <u>any of</u> the girls
No		Future work	

Result: We decided on the above analysis. Phrases like 'half cup of milk' has milk as the head as agreement of verb is with milk.

Future Work: The following enhancements will be done later:

- positive and negative connotations of certain words will be considered in semantics
- Comparative forms of the graded quantifiers will be done later
 - *Example: i) She has more than one card*
- The quantifiers like liters, dozens, kilograms, etc. can have a number before them, which gives the exact quantity of the noun being considered. This number will be considered later. Rather a detailed analysis on these quantities will be done later.
- Negative quantifiers' behavior (i.e. no, not) will be analyzed in detail later.