



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 Nayer	4 th Nov, 04	0.1	Created
Zunaira Malik	20 th June, 05	0.2	Problem with one single rule for PRENOMP so divided into two

Rule ID: EGR231

Rule Syntax: Following is the constituent description of the rule.

The following does not work for PRENOMP
It parses “*times a day*” but not “*two times a day*” when it should do the opposite.
MULTP -> [mult | card mult].

It works if divided into two separate rules

MULTP -> mult
MULTP -> card mult

Rule Functional Description: Following are the functional specifications of the rule.

MULTP -> [mult:^=!, ~[! MULT =c 'times']; | card:^=!, mult: ^ = !, ! MULT =c 'times';].

MULTP -> mult:^ =!, ~[! MULT_FORM =c 'times'];.
MULTP -> card: ^=!, !NUM =c PL; mult:^ = !, ! MULT_FORM =c 'times';.

Frequency: -

Description: This production shows the MULTP (multiplier phrase) that can occur before determiner.

c-structure: Multiplier can have cardinal number (two, three, etc.) followed by the multiplier ‘times’. Multipliers such as *once*, *twice* etc. can also come before determiner.

f-structure: The structure information of multiplier goes as the SPEC to the DETP. Multiplier can have a plural cardinal number (two, three, etc.) followed by the multiplier ‘times’. It is to be noted that cardinal numbers include all numbers except *one*. *One* is the only cardinal having NUM as singular and will be catered in the later stage.

Examples:

- 1) He gave me double the amount I asked for.
- 2) Twice his salary is my expenditure.
- 3) This van holds three times the passengers as that sports car



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Rule Status: Active

Reference:

[1] <http://webster.commnet.edu/grammar/determiners/determiners.htm>

Related Rules:

Related POS: EPOS111, EPOS112

Replaces: EGR134

Reason: problem with one single rule for PRENOMP so divided into two

Replaced by: -

Reason: -

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

Analysis: The multipliers precede plural count nouns and mass nouns and occur with singular count nouns denoting number or amount [1]. They are somehow multiplying the quantity of the coming noun. Some multipliers (such as twice, or thrice) can occur alone before the determiner, while in a special case of the multiplier “time”/“times” they demand that a cardinal number precedes them.

Example:

My wife is making twice my salary

Result: The above analysis was finalized.

Future Work: Following issues need to be addressed, and constraints to be included respectively, after further analysis:

- 1) The usage of the multipliers “time” and “times” need to be specified.
- 2) The determiner can be an article, pronoun genitive or a demonstrative. But with certain multipliers indefinite article is not allowed. This constraint needs to be looked into.

*Example: *Twice a total Vs Twice the total*

- 3) need to figure out why one single rule does not work for PRENOMP. It parses “times a day” but not “two times a day”