```
#feature-grammar
#Non-terminal production

grammarString = """
S[SEN=?s] -> NP[SEN=?s, NUM=?n, PER=?p] VP[SEN=?s, TENSE=?t, NUM=?n,
PER=?p] | CC NP[SEN=?s, NUM=?n, PER=?p] VP[SEN=?s, TENSE=?t, NUM=?n,
PER=?p] | NP[SEN=?s, NUM=?n, PER=?p]

S[SEN=neut] -> NP[SEN=pos, NUM=?n, PER=?p] VP[SEN=neg, TENSE=?t, NUM=?n,
PER=?p] | NP[SEN=neg, NUM=?n, PER=?p] VP[SEN=pos, TENSE=?t, NUM=?n,
PER=?p] | CC NP[SEN=pos, NUM=?n, PER=?p] VP[SEN=neg, TENSE=?t, NUM=?n,
PER=?p] | CC NP[SEN=neg, NUM=?n, PER=?p] VP[SEN=pos, TENSE=?t, NUM=?n,
PER=?p] | VP[SEN=neut, TENSE=?t, NUM=?n, PER=?p] | S[SEN=pos] S[SEN=neg] |
S[SEN=neg] S[SEN=pos]

S[SEN=pos] -> S[SEN=pos] CC S[SEN=neut] | S[SEN=neut] CC S[SEN=pos] |
S[SEN=pos] CC RB-N S[SEN=neg] | S[SEN=pos] RB-N S[SEN=neg] | S[SEN=neut]
CC RB-N S[SEN=neg] | S[SEN=neut] RB-N S[SEN=neg] | ADVP NP[SEN=neut]
VP[SEN=pos] | ADVP NP[SEN=pos] VP[SEN=neut]

S[SEN=neg] -> S[SEN=neg] CC S[SEN=neut] | S[SEN=neut] CC S[SEN=neg] |
S[SEN=neg] CC RB-N S[SEN=pos] | S[SEN=neg] RB-N S[SEN=pos] | S[SEN=neut]
CC RB-N S[SEN=pos] | S[SEN=neut] RB-N S[SEN=pos] | ADVP NP[SEN=neg]
VP[SEN=neut] | ADVP NP[SEN=neut] VP[SEN=neg]

SBAR[SEN=?s] -> WHNP S[SEN=?s]

NP[SEN=?s, NUM=?n, PER=?p] -> PRP[SEN=?s, NUM=?n, PER=?p] | NNP[SEN=?s,
NUM=?n, PER=?p] | NNS[SEN=?s, NUM=?n, PER=?p] | JJ[SEN=?s, NUM=?n, PER=?p]
NN | DET[SEN=?s, NUM=?n, PER=?p] | DET JJ[SEN=?s, NUM=?n, PER=?p] NN | DET
JJ[SEN=?s, NUM=?n, PER=?p] JJ[SEN=?s, NUM=?n, PER=?p] NN | JJ[SEN=?s,
NUM=?n, PER=?p] NN | NP[SEN=?s, NUM=?n, PER=?p] PP[SEN=?s, NUM=?n, PER=?p]
NP[SEN=?s, NUM=?n, PER=?p] -> JJ[SEN=?s, NUM=?n, PER=?p] NN NN | VB
NP[SEN=?s, NUM=?n, PER=?p] PP[SEN=?s, NUM=?n, PER=?p] | NP[SEN=?s, NUM=?n,
PER=?p] CC NP[SEN=?s, NUM=?n, PER=?p] | NP[SEN=?s, NUM=?n, PER=?p]
NP[SEN=?s, NUM=?n, PER=?p] | NP[SEN=?s, NUM=?n, PER=?p] VP[SEN=?s] |
NP[SEN=?s, NUM=?n, PER=?p] SBAR | DET NNS | DET NN
NP[SEN=?s, NUM=?n, PER=?p] -> JJ[SEN=?s, NUM=?n, PER=?p] NNP[SEN=?s,
NUM=?n, PER=?p] NNS | ADJP[SEN=?s, NUM=?n, PER=?p] NN | ADJP[SEN=?s,
NUM=?n, PER=?p] NN NN

NP[SEN=pos, NUM=?n, PER=?p] -> NP[SEN=neut] VP[SEN=pos, TENSE=?t, NUM=?n,
PER=?p] | NP[SEN=pos, NUM=?n, PER=?p] VP[SEN=neut, TENSE=?t, NUM=?n,
PER=?p] | DET JJ[SEN=neg, NUM=?n, PER=?p] JJ[SEN=pos, NUM=?n, PER=?p] NN |
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DET JJ[SEN=neut, NUM=?n, PER=?p] JJ[SEN=pos, NUM=?n, PER=?p] NN | DET
JJ[SEN=pos, NUM=?n, PER=?p] JJ[SEN=neut, NUM=?n, PER=?p] NN
NP[SEN=pos, NUM=?n, PER=?p] -> NP[SEN=neg, NUM=?n, PER=?p] CC-B
NP[SEN=pos, NUM=?n, PER=?p] | NP[SEN=neut, NUM=?n, PER=?p] CC NP[SEN=pos,
NUM=?n, PER=?p] | NP[SEN=pos, NUM=?n, PER=?p] CC NP[SEN=neut, NUM=?n,
PER=?p] |  NP[SEN=neut, NUM=?n, PER=?p] PP[SEN=pos, NUM=?n, PER=?p]

NP[SEN=neg, NUM=?n, PER=?p] -> NP[SEN=neut, NUM=?n, PER=?p] VP[SEN=neg,
TENSE=?t, NUM=?n, PER=?p] | NP[SEN=neg, NUM=?n, PER=?p] VP[SEN=neut] | DET
JJ[SEN=pos, NUM=?n, PER=?p] JJ[SEN=neg, NUM=?n, PER=?p] NN | DET
JJ[SEN=neut, NUM=?n, PER=?p] JJ[SEN=neg, NUM=?n, PER=?p] NN | DET
JJ[SEN=neg, NUM=?n, PER=?p] JJ[SEN=neut, NUM=?n, PER=?p] NN
NP[SEN=neg, NUM=?n, PER=?p] -> NP[SEN=pos, NUM=?n, PER=?p] CC-B
NP[SEN=neg, NUM=?n, PER=?p] | NP[SEN=neut, NUM=?n, PER=?p] CC NP[SEN=neg,
NUM=?n, PER=?p] | NP[SEN=neg, NUM=?n, PER=?p] CC NP[SEN=neut, NUM=?n,
PER=?p] | NP[SEN=neut, NUM=?n, PER=?p] PP[SEN=neg, NUM=?n, PER=?p]

NP[SEN=neut, NUM=?n, PER=?p] -> NP[SEN=pos, NUM=?n, PER=?p] VP[SEN=neg] |
NP[SEN=neg, NUM=?n, PER=?p] VP[SEN=pos, TENSE=?t, NUM=?n, PER=?p] |
NP[SEN=neg, NUM=?n, PER=?p] CC-A NP[SEN=pos, NUM=?n, PER=?p] | NP[SEN=pos,
NUM=?n, PER=?p] CC-A NP[SEN=neg, NUM=?n, PER=?p]
NP[SEN=neut] -> NP[SEN=pos] PP[SEN=neg] | NP[SEN=neg] PP[SEN=pos]

VP[SEN=?s, TENSE=?t, NUM=?n, PER=?p] -> VBZ NP[SEN=?s, NUM=?n, PER=?p] |
VB NP[SEN=?s, NUM=?n, PER=?p] | VBZ RB VP | VBZ RB JJ[SEN=?s, NUM=?n,
PER=?p] | MD RB VP[SEN=?s, TENSE=?t, NUM=?n, PER=?p] | VBN[SEN=?s,
TENSE=?t, NUM=?n, PER=?p] PP[SEN=?s, NUM=?n, PER=?p] | VBD[SEN=?s,
TENSE=?t, NUM=?n, PER=?p] ADVP | VBZ[SEN=?s, TENSE=?t, NUM=?n, PER=?p]
VBN[SEN=?s, TENSE=?t, NUM=?n, PER=?p]
VP[SEN=pos, TENSE=?t, NUM=?n, PER=?p] -> VBZ RB-N VP[SEN=neg, TENSE=?t,
NUM=?n, PER=?p] | VBZ RB-N JJ[SEN=neg, NUM=?n, PER=?p] | MD RB-N
VP[SEN=neg, TENSE=?t, NUM=?n, PER=?p]
VP[SEN=neg, TENSE=?t, NUM=?n, PER=?p] -> VBZ RB-N VP[SEN=pos, TENSE=?t,
NUM=?n, PER=?p] | VBZ RB-N JJ[SEN=pos, NUM=?n, PER=?p] | MD RB-N
VP[SEN=pos, TENSE=?t, NUM=?n, PER=?p]
VP[SEN=neg, TENSE=?t, NUM=?n, PER=?p] -> VBZ RB-N VP[SEN=pos, TENSE=?t,
NUM=?n, PER=?p] | VBZ RB-N JJ[SEN=pos, NUM=?n, PER=?p] | MD RB-N
VP[SEN=pos, TENSE=?t, NUM=?n, PER=?p]
VP[SEN=neut, TENSE=?t, NUM=?n, PER=?p] -> VBZ RB-N VP[SEN=neut, TENSE=?t,
NUM=?n, PER=?p] | VBZ RB-N JJ[SEN=neut, NUM=?n, PER=?p] | MD RB-N
VP[SEN=neut, TENSE=?t, NUM=?n, PER=?p]

PP[SEN=?s] -> IN NP[SEN=?s, NUM=?n, PER=?p] | ADVP IN IN NP[SEN=?s,
NUM=?n, PER=?p]
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ADVP -> ADVP RB

ADVP -> RB

WHNP -> WP

ADJP[SEN=?s] -> JJ[SEN=?s] | RB JJ[SEN=?s] | ADJP[SEN=?s] CC ADJP[SEN=?s]
| ADJP[SEN=?s] JJ[SEN=?s] | JJ[SEN=?s]
ADJP[SEN=pos] -> RB-N DET JJ[SEN=neg] | RB-N JJ[SEN=neg] | ADJP[SEN=neg]
CC-B ADJP[SEN=pos] | ADJP[SEN=neut] CC ADJP[SEN=pos] | ADJP[SEN=neg]
JJ[SEN=pos] | ADJP[SEN=neut] JJ[SEN=pos]
ADJP[SEN=neg] -> RB-N DET JJ[SEN=pos] | RB-N JJ[SEN=pos] | ADJP[SEN=pos]
CC-B ADJP[SEN=neg] | ADJP[SEN=neut] CC ADJP[SEN=neg] | ADJP[SEN=pos]
JJ[SEN=neg] | ADJP[SEN=neut] JJ[SEN=neg]
ADJP[SEN=neut] -> RB-N JJ[SEN=neut] | RB-N DET JJ[SEN=neut]
"""

# Lexicons
grammarStringLex = """
NN[SEN=neut, NUM=sg] -> "story" | "impact" | "example" | "film" | "making"
| "way" | "sweater" | "dog"
NNS[SEN=neut, NUM=pl] -> "dogs" | "films" | "people" | "phones"
NNP[SEN=neut, NuM=sg] -> "sakib" | "enya" | "adidas" | "apple" | "hell" |
"football" | "batman" | "godfather"
NNP[SEN=neg, NUM=sg] -> "mess" | "hazard" | "holocaust"
PRP[SEN=neut, NUM=sg, PER=3] -> "it" | "he" | "her"
PRP-D[SEN=neut] -> "my"

VB[SEN=neut, TENSE=inf] -> "have" | "are"
VBZ[SEN=neut, TENSE=pres, NUM=sg, PER=3] -> "is" | "likes" | "has" |
"does" | "loves"
VBN[SEN=neut, TENSE=past] -> "told" | "gave"
VBD[SEN=neut] -> "were" | "was" | "saw"
VBD[SEN=neg] -> "attacked"

DET[SEN=neut, NUM=sg] -> "a" | "an" | "the" | "The" | "this"

JJ[SEN=pos] ->  "good" | "wonderful" | "true" | "perfect" | "happy" |
"well-intentioned" | "compelling" | "long" | "entertaining"
JJ[SEN=neg] -> "terrible" | "low" | "gut-wrenching" | "manipulative" |
"rancid" | "ugly" | "sad" | "dull" | "scary"
JJ[SEN=neut] -> "sunny" | "long" | "cold" | "comic" | "dramatic" | "other"
| "little"
```

```
CC -> CC-B | CC-A | CC-SC | CC-COM
CC-B -> "but"
CC-A -> "and"
CC-SC -> ";"
CC-COM -> "comma"

RB -> "there" | "lately" | "never" | "really" | "very" | "too" | "mainly"
| "there" | "shamelessly"
RB-N -> "not"

IN -> "with" | "of" | "by" | "because" | "for" | "to" | "like" | "from" |
"before"

WP -> "who"

MD -> "may" | "might" | "should" | "could"


"""

grammarString += grammarStringLex
```