Practical 8

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Subject : NLP

Aim: Write a python program to check grammer in given sentence.

Theory:

Using the NLTK we need to build a program to check the accuracy of English grammar in given sentence using context for grammar in given sentence using grammar concepts.

We need to write a proper context free language for 'English Grammar' which doesn't have ambiguity.

Next in order to make a sentence go through our contact free grammar and give output as 'correct grammar' and parse there if the sentence is grammatically correct else incorrect.

We require NLTK to parse grammar and check whether the implicit sentence can be created using grammar or not.

We also need codeco module that is used for encoding and decoding for converting text between diff. representation.

We use reassure doesn't parse which is top down parser. last we create an input file with english sentence including both correct and incorrect. And then you can identify have code words for both situations.

Conclusion:

Hence we have implemented the program to check grammar in given sentence.

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```python
import nltk
import codecs
```

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import nltk
import codecs
load_grammar = nltk.data.load('file:englishGrammer.cfg')
file_input = codecs.open('input.txt', 'r')
for sent in file_input:
    wrong_syntax=1
    sent_split = sent.split()
    print("\n\n"+ sent)
    rd_parser = nltk.RecursiveDescentParser(load_grammar)
    for tree_struc in rd_parser.parse(sent_split):
        s = tree_struc
        wrong_syntax=0
        print("\n Correct Grammer !!! \n")
        print(str(s))
```

```
                 print("\n Correct Grammer !!! \n")
[ ]              print(str(s))
                 f = open("demoEnglish.txt", "a")
                 f.write("\nCorrect Grammer!!!!! \n")
                 f.write(str(s))
                 f.close()
             if wrong_syntax==1:
                 print("\n Wrong Grammer!!!!!! \n")
                 f = open("demoEnglish.txt", "a")
                 f.write("\n Wrong Grammer!!!!! \n")
                 f.close()
```

     i saw raj

      Correct Grammer !!!

     (S
        (NP_Pl (PropN_Pl i))
        (VP_Pl (TV_Past saw) (NP (NP_Sg (PropN_Sg raj)))))

      raj ate an apple

      Correct Grammer !!!

[ ] shivam like apple

      Wrong Grammer!!!!!!

     good child happily walked

      Correct Grammer !!!

     (S
        (NP_Sg (Adj good) (N_Sg child))
        (VP_Sg (Adv happily) (IV_Past walked)))

     i walks

      Wrong Grammer!!!!!!

     innocent boys like all dogs

      Correct Grammer !!!

     (S
        (NP_Pl (Adj innocent) (N_Pl boys))

they shot an elephant

 Correct Grammer !!!

(S
  (NP_Pl (PropN_Pl they))
  (VP_Pl (TV_Past shot) (NP (NP_Sg (Det_Sg an) (N_Sg elephant)))))

these girl likes cars

 Wrong Grammer!!!!!!