

DCG Assignment 1

NLPMT

Submission Deadline 26th Feb 2016

Introduction

This exercise is worth 5% (out of 50%) of the marks for the study unit. The aim is to handle three aspects of the the syntax of simple noun phrases. First, to capture the syntax by building the grammar. Second, to handle certain kinds of agreement, and finally to build the right syntax trees. We have handled a lot of these issues in class already, so this is mostly an easy way to consolidate your knowledge and at the same time to guarantee a few marks.

Task

1. Write grammar rules without arguments to handle noun phrases
 - without determiners
 - with determiners *the* and *a*.
 - with adjectives
2. Include the determiners *this* and *that*. You will need to handle number agreement.
3. Embed the np rules into the grammar and add some other rules to handle optional relative clauses, e.g. *the dog that barked*. *the dog that bit the cat*. You should use the following rule

```
optrel --> [ ].  
optrel --> rel, vp.
```

Here, **rel** is a new POS. You will need to add the lexical entries for *that, which, etc*

4. Build the respective syntax trees.
5. You will note that you get an empty node when the **optrel** is missing. Add extra clauses to modify the tree returned to eliminate the empty node.
6. Consider the following two sentences:
 - (a) The policeman that solves the crime receives praise.
 - (b) The policeman that solve the crime receives praise.*

The second sentence is not grammatical because there is no agreement between *the policeman* and *solve*. Include the necessary additions to enforce this agreement.

Submission

Please submit all materials as a zip file by email to myself and to francelle.scicluna@um.edu.mt with subject line NLPMT EX1.1