

Lexicology Lab 6

In this laboratory, we will get familiar with PC-PATR, a syntactic parser that generates parse trees for input sentences, based on a lexicon and a grammar. First, download PC-PATR and then go through the Reference manual (here: <http://members.sange.fi/~atehwa/vc/packaging/pc-parse-doc/doc/pcpatr.txt>).

Now, download the very simple grammar and lexicon attached. Have a look at these files, and then load them in PC-PATR. Now parse the following sentences:

```
uther sleeps
Uther sleeps
uther sleep
```

Try "help" which gives you a list of commands and then "help cmd" to find out about any particular command

Task 1.

Add the words "he" and "him" to lexicon.lex. Make the grammar accept "he sleeps" and reject "him sleeps" and "him sleep".

Task 2.

Modify the grammar and lexicon files to parse sentences with verbs that take complements, i.e. to successfully analyse

```
Uther accepted Arthur
Uther gave Arthur a book
```

but to reject sentences with the wrong number of complements for the verb e.g.

```
Uther sleeps a book
Uther gave
```

Task 3a.

Now that we finished the warm up exercise, build the lexicon for the following categories:

```
n*, v* - time
n*, v* - flies
v*, prep* - like
det* - an
n* - arrow
```

Task 3b.

Build a grammar that, along with the lexic from task 3a, allows for the following interpretation of the sentence

Time flies like an arrow
((n*)NP (v* (prep* (det* n*)NP)PP)VP)S

Task 3c.

Modify the grammar from point b to also allow for the interpretation

Time flies like an arrow
(((n*)NP (v*)VP)S (prep* (det* n*)NP)PP)S
(The same meaning, different structure);

Task 3d.

Modify one of the grammars from point 3b or 3c to allow also for the interpretation:

Time flies like an arrow
((n* n*)NP (v* (det* n*)NP)VP)S

Task 3e.

Modify one of the grammars above to accept also the interpretation

Time flies like an arrow
(((v* n*)VP)S (prep* (det* n*)NP)PP)S

Submit the grammar(s) and lexicon files in an archive with you name on it.