Morphology

Einführung in die Computerlinguistik – Übung 11.12.2015

Write

1. Open console (Use MobaXterm on Windows)
2. Only if you are on your private computer

    ```
    ssh username@remote.cip.ifi.lmu.de
    ```

3. Login to my machine

    ```
    ssh tbd
    ```

4. Enable chat

    ```
    mesg y
    ```

5. Send answers or questions

    ```
    echo "bla bla" | write kannk
    ```

Morphology - SMOR

SMOR is a finite-state machine for morphological analysis and generation of words.

1. Download "SMOR" from the course page.

2. Go to the folder and unpack the archive ("tar xfvr SMOR-linux.tar.gz").
    ```
    tar xfvr SMOR-linux.tar.gz
    ```

3. Have a look at the tag description at http://www.cis.uni-muenchen.de/~schmid/tools/SMOR/dspin/ch01s03.html#id558692

Morphology – SMOR

4. Look at the README file in order to answer the following questions:
    1. How can you start SMOR? ./smor
    2. How can you analyze a word? In analysis mode: write a word, press enter
    3. How to switch between modes to analyze and to generate words? Press enter without writing a word; same to go back
    4. How to generate words? In generation mode: write a lemma and the tags you want, press enter

5. Go to the German Wikipedia and analyze the first 10 words of a random article. Which information does SMOR give about…
    1. …nouns? Gender, case, number
    2. …verbs? Person, number, tense, mood
    3. …adjectives/adverbs? Comparative form, gender, case, number, strong or weak flection
    4. …prepositions? The gender of the following word
    5. …conjunctions? If coordinating or subordinating

Morphology – Analysis of Words

6. Analyze the word "schöner" and explain all possible analysis.
   Solution: Look at the tag descriptions in the link on slice 3

7. Find a word SMOR does not know. Examples: words in foreign languages, names, etc.

8. Competition: Find a word that is not a compound with as many analysis as possible! Example: "Übergang" has 29 analysis

9. Competition 2: Find a compound with as many analysis as possible! Example: "Mädchenschulangestellten" has 46 analysis

Morphology – Generation of Words

INFO: How to generate word forms?

- change to generation mode

- enter the basic form of a word + the tags you want

- the basic form is the form you get when analyzing

- you can find all tags in the description file (cheat: analyze a word that has the tags you want and copy them ;))

Morphology – Generation of Words

10. Analyze the following words and generate their plural form:
    - Buch
    - Tisches
    - Bauer
    - Mädchens

    Analyze, copy the result to generation mode and change "\<Sg\>" to "\<Pl\>"

11. Analyze the following words and generate the Singular form (same person):

    - esst

    - lesen

    Analyze, copy the result to generation mode and change "\<Pl\>" to "\<Sg\>"

Morphology – Generation of Words

12. Generate the 4 singular forms of "Glaube". Glaube<+NN><Masc><Nom><Sg>, Glaube<+NN><Masc><Gen><Sg>, Glaube<+NN><Masc><Dat><Sg>, Glaube<+NN><Masc><Acc><Sg>

13. Generate the 4 plural forms of "Haupt". Haupt<+NN><Masc><Nom><Pl>, Haupt<+NN><Masc><Gen><Pl>, Haupt<+NN><Masc><Dat><Pl>, Haupt<+NN><Masc><Acc><Pl>

14. Generate all 3rd person singular forms of "flanieren" that consist of one single word. flanieren<+V><3><Sg><Pres><Ind>, flanieren<+V><3><Sg><Pres><Subj>, flanieren<+V><3><Sg><Past><Ind>, flanieren<+V><3><Sg><Past><Subj

15. Try to generate a word that does not exist in German, for example words without a plural form. What does SMOR do? Example: Silber<+NN><Neut><Nom><Pl>

Morphology – Generation of Words

Change of part of speech:

16. Generate a noun from a verb. Example: lernen<V><SUFF><+NN><Neut><Nom><Sg>

17. Generate an adjective from a verb. Example: rennenden<V><PPres><SUFF><+ADJ><Pos><Neut><Gen><Sg><Wk>

18. Generate a noun from an adjective. Example: nett<ADJ><SUFF><+NN><Neut><Acc><Sg><Wk>