

# Reasoning Web 2008

## Attempto Controlled English for Knowledge Representation

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## Hands-On Training

Please do the following assignments in the given order. Ask for help if you are stuck.

### Assignment 1

Go to [attempto.ifi.uzh.ch/site/tools/](http://attempto.ifi.uzh.ch/site/tools/) and open APE (ACE Parser). Alternatively, go directly to [attempto.ifi.uzh.ch/ape](http://attempto.ifi.uzh.ch/ape).

### Assignment 2

Read the APE help file and have a look at the menu.

### Assignment 3

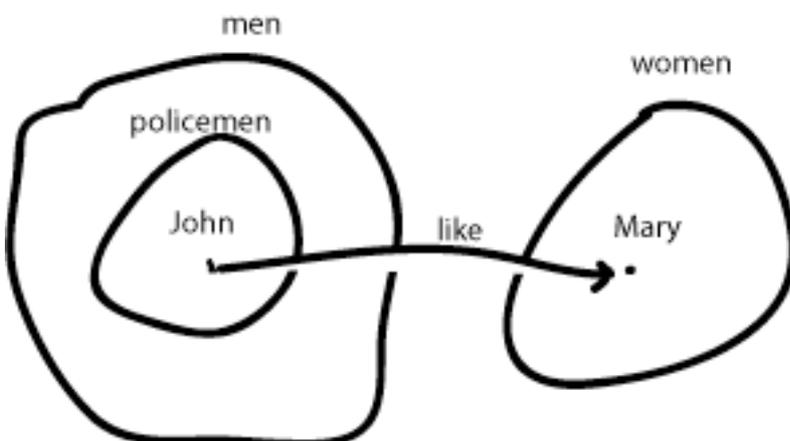
Try the example sentences provided by the web-client (Hint: use the ↑ and ↓ buttons to scroll through the sentences.).

Use various menu settings and check the output.

Introduce intentional errors into the sentences.

### Assignment 4

Express the following diagram in ACE. Express also that something is not the case.



## Assignment 5

Paraphrase the following text in ACE and submit it to the parser. If words are not found in the common lexicon prefix them with p: (for proper names), n: (for nouns) v: (for verbs), and a: (for adjectives and adverbs). Hyphenate multiwords. Do not forget to hyphenate phrasal and prepositional verbs.

Attempto Controlled English (ACE) is a language specifically designed to write specifications. ACE is a controlled natural language, i.e. a subset of English with a domain specific vocabulary and a restricted grammar in the form of a small set of construction and interpretation rules. This means that all ACE sentences are correct English, but that not all English sentences are allowed in ACE. The restriction of full natural language to a controlled subset is essential for ACE to be suitable for knowledge representation purposes.

## Assignment 6

Write part of an ACE specification for Kemmerer's library data base problem:

Consider a small library data base with the following transactions:

1. Check out a copy of a book / Return a copy of a book.
2. Add a copy of a book to / Remove a copy of a book from the library.
3. Get the list of books by a particular author or in a particular subject area.
4. Find out the list of books currently checked out by a particular borrower.
5. Find out what borrower last checked out a particular copy of a book.

There are two types of users: staff users and ordinary borrowers. Transactions 1, 2, 4 and 5 are restricted to staff users, except that ordinary borrowers can perform transaction 4 to find out the list of books currently borrowed by themselves. The data base must also satisfy the following constraints:

- All copies in the library must be available for checkout or be checked out.
- No copy of the book may be both available and checked out at the same time.
- A borrower may not have more than a predefined number of books checked out at one time.

## Assignment 7

Please fill out the attached questionnaire.