Vinci
499 Projects

Vinci is a program which generates natural language utterances at random, based on a grammar specified by the user. Currently, utterances are generated primarily in English or French, since comprehensive lexicons with appropriate grammatical and semantic information have been built for these two languages. Limited generations have been produced in several other languages:
Spanish, Romanian, Russian and Anglo-Saxon (!).

The system has evolved under the direction of Greg Lessard and Michael Levison over some 30 years.

One application of the program is to produce exercises in the context of language-learning, recently for several online courses in French Studies. In this environment, Vinci generates "questions" and the corresponding "answers" as each student requires them. The student's answer to a question is compared with the generated answer, and a comprehensive error analysis is produced; for example, if student of French enters an adjective which does not agree in number and gender with its noun, or a verb in the wrong person or tense, these details will be returned.
There are several possible 499 projects:

(a)   Each student's questions and answers are logged by a program called "instr" (we will leave it to the reader's imagination as to what this program is emulating!) This program can decide, among other things, whether the student may proceed to the next exercise. More analysis is needed so that instr can advise the student about repeated kinds of errors.

(b)   Work is required on enhancing oral output by Vinci, by which instr can speak the questions and answers rather than presenting textual output.

(c)   Subsidiary programs are needed which allow language instructors to build exercises rather than relying those produced by the Greg and Michael. (The typical language instructor may need some online help in building context-free grammars, perhaps by copying grammar fragments from a library.)

(d)   ... and so on.

Competence in C is important, since Vinci and instr are both written in this language.

Knowledge of French, of linguistics or of phonology is not essential, though some (written) French might be helpful in (a).

Greg Lessard
Études françaises, Queen's University