

**Project Part II:  
Implementing an Earley parser**

(Due **Wednesday, March 12** by email attachment to dm@ling.osu.edu)

Part II of the final project consists of implementing an Earley parser to get hands-on experience with this algorithm, ensuring a deep understanding of it. More concretely:

1. Form teams of two project members (in exceptional circumstances three). While the work can be divided up between the two, both members should be engaged with the entire project by joint discussions of progress and results so that either member understands and can competently describe what's happening in every part of the program and the test grammar in a short presentation using slides in place of an exam in finals week, Tuesday 3:30 in Room Oxley 201.
2. Implement the agenda-based Earley parser (cf. our slides 22ff) for atomic categories in your favorite programming language.
3. Write a simple grammar that includes
  - direct left recursion
  - indirect left recursion
  - bracketing ambiguity
  - structural labelling ambiguity
  - lexical ambiguity

and test your parser with example sentences exercising those parts of the grammar.

4. Submit
  - the code for the parser,
  - the grammar,
  - the example sentences,
  - and two short statements, in each group member describes what the other group member contributed to the project.