

Assignment 13

Programming Languages

1. [20 pts, Prolog]

Consider the database in the lecture and write `grandparent` and `grandchild` relationships. Define `grandchild` in terms of `grandparent` and state the pattern about them. Show some examples.

2. [20 pts, Prolog]

Write the `reverse` predicate for lists in Prolog using the `append` predicate. What is the complexity of this reverse predicate?

3. [20 pts, Prolog]

Write a `length` predicate that computes the length of a list.

4. [40 pts, Prolog]

Consider the example grammar and given sentence in the lecture. Complete the grammar predicates `predicate`, `determiner`, `verb` and `noun`.

Compute `verb(X, Y)`.

Compute `noun(X, Y)`.

