3007 exam review
4 multipart questions, 12 pages
1/3 prologue

Scheme:
covers everything, but focused on objects, streams, contour diagrams
recursive, iterative, tree recursion
lambda
objects, dispatch
lists, data abstraction
make-rational example
closure property:
– combine objects to satisfy property and make higher complexity
closure object:
– lambda declared in different environment and closes main function
– has access to lexical scope and all others
– likely ask to use not define
bank object
referential transparency vs mutable state
streams:
– delayed eval
– how to use
– chain of delayed eval
Environment model:
– contour diagrams (more difficult than assignment, easier than "triple" example)
– lexical scoping vs dynamic scoping
– no metacircular evaluator explicitly
  – should understand how it works, eval/apply loop

Prologue:
structure query(students) -> last Tuesday's lecture?
Student(X, Y, Z) gives all students + their details
Student(1001, Name, Grades) -> details on student
queries like in assignment
average grades example?
types of language
predicate logic
facts, rules
unification
goals
arithmetic
backtracking
lists
queries
recursion
no unification algorithm but understand how it works to make rules and queries
factorial/fibonacci
accumulate, map, append
cuts
red vs green cuts
– green: doesn't change meaning
– red: breaks program