The following are the major topics that will be covered in the CS161 midterm exam. There will be time
reserved in section 3A (Thursdays).

- Basic SQL: manipulation, filtering, aggregation (including subqueries), functions
- Syntax, semantics, query, and evaluation
- Index types in SQL (primary, foreign, indices)
- Let expressions and outer aliasing/renaming
- User-defined types (singleton) and type coercion (type)
- Pattern matching: regular expressions, function definitions, case, patterns
- Recursion, tail recursion (including structurization), and tail call recursion
- Higher-order functions: subtyping, type (e.g., map, fold, filter), types for higher-order functions
- Currying, and partial evaluation
- Type inference and polymorphism
- Function classes and environments
- Classes as Abstract Data Types
- Syntax and types of program equivalence: equational, structural, functional equivalence (renaming, substitution)
- Modules, structure, and signatures—both before and abidingly after abstraction