Total:

Exercise 1 (50 pts) Please use MLyacc to implement a parser for parsing types in the programming language Geizela. The datatype for the abstract syntax trees that represent types in Geizela is given as follows:

(* The abstract syntax for types *)

type lab = string

datatype ty =
    TYarr of ty (* array type *)
| TYbase of string (* base type *)
| TYfun of ty list * ty (* function type *)
| TYrec of (lab * ty) list (* record type *)
| TYref of ty (* reference type *)
| TYtup of ty list

Exercise 2 (100 points) Please use parsing combinators to implement a parser for the programming language Tiger in the textbook.