# Discrepancies between ANSI and Mini-C

* Structs may only contain primitive types.
* Pointers to structs are not allowed.
* Booleans are considered a primitive type, but are treated like an int.
* No casting allowed.
* Do..While statements are not supported.
* No function pointers allowed.
* No wide characters (mostly due to lack of hardware support for Unicode display).
* Functions may not return a struct (and may not be able to take a struct as a parameter, pending investigation)
* Piping (using “<<” or “>>” to output or input) is not allowed.
* Short and long are recognized as primitive types, but are the same as an int.
* File handles are defined as integers, and all file I/O functions return NULL since there is no file system.
* No heap allocation, since OS support is needed.
* Typedefing is not allowed.
* Sizeof only accepts types, not expressions.
* Auto incrementing and decrementing operators ++ and – are not valid.
* Keywords const, volatile, register and auto are not recognized, since they would not have an effect on the compiler, and complicate the grammar.
* Floating point primitive types are not allowed.
* Enumerators are not allowed.
* Unsigned versions of primitives are not supported whatsoever.
* Typechecking Rules:
  + Any primitive type (including pointers) may be NULL (which maps to 0).
  + Any non-pointer primitive type may used with an integer type.
  + Any pointer type may be used with a void\* type.
  + All other types must match completely.