Appendix C – Directives:

#add_context see Context: adds a declaration to a context; Your main program, and any modules that you use, can add things to the Context.

#align used to align struct member fields relative to the start of the struct.

#as

#asm specifies that the next statements in a block are inline assembly.

#assert does a compile-time assert. This is useful for debugging compile-time meta-programming bugs.

?? **#bake** currying

#bake_arguments Baked Functions: does a compile-time currying of a function/parameterized struct.

#c_call follows C ABI conventions: makes the function to use the C calling convention. Used for interacting with libraries written in C.

?? #caller_location Use as default value of parameter to set it to source code location

?? #caller_code

#char see § 12.1 / see 2.3 Fundamental types: makes the next one character string after it into an single ASCII character (e.g. #char "A").

#code specifies that the next statement/block is a code type.

#complete see if-case: Ensure an if-case satement checks all values of the enum

#compiler is a function that interfaces with the compiler as a library. The function works with compiler internals.

#cpp_method allows one to specify a C++ calling convention.

#cpp_return_type_is_non_pod allows one to specify that the return type of a function is a C++ class, for calling convention purposes (pod = plain old data)

#deprecated marks a function as deprecated. Calling a deprecated function leads to a compiler warning

#dump dumps out the bytecode and basic blocks used to construct the function. This is useful for viewing the disassembly of the bytecode.

#expand marks the proc as a macro.

#file

#filepath gets the current filepath of the program as a string

#foreign Calling C: specifies a foreign procedure

#foreign_library Calling C: specifies file for foreign functions

#foreign_system_library Calling C: specifies system file for foreign functions

#if Compiling conditionally with #if:, #else does not exist!

#import How to compile and run a JAI program: takes foreign modules located in the Jai `modules` directory and compile the library into your program.

#insert inserts a piece of compile-time generated code into a function or a struct.

#insert_internal

?? #insert, scope() similar to `#insert`, except it also allows `code` to access variables in the local scope.

#intrinsic marks a function that is handled specifically by the compiler, like memcpy, memcmp, memset (see Preload.jai)

#line Build function

#load Load source code, as if it were placed right here

#location gives the location of a piece of Code

#modify lets one put a block of code that is executed at compile-time each time a call to that procedure is resolved. One can inspect parameter types at compile-time; Filter polymorphic parameter type.

#module_parameters specifies the variable as a module parameter.

#must Multiple return values: requires the caller to get/use the particular return value of the called function. Used primarily for malloc or opening file handles.

#no_abc Turn off bounds checking for the scope of a particular array/string access: in this function, do not do array bounds checking

#no_context tells the compiler that the function does not use the context.

?? **#no_alias**

#no_padding tells the compiler to do no padding for this struct.

#no_reset lets one store data in the executable's global data, without having to write it out as text.

#place a way of forming a union data type with a struct; Set location in struct of following members

#placeholder specifies to the compiler that a particular symbol will be defined/generated by the compile-time metaprogram.

??#program_export see Program entry point

#run see § 6.1 Running code at compile time: takes the function in question and runs that function at compile time (e.g. `PI :: #run compute_pi();`).

#runtime_support Proc comes from runtime support.

#scope_export makes the function accessible to the entire program

#scope_file makes the function only callable within the particular file.

#scope_module

#specified requires values of an enum to explicitly be initialized to a specific value. An enum marked specified will not auto-increment, and every value of the enum must be declared explicitly.

#string see § 12.1 / #string<token> Parse the next lines as a string up to the next occurrence of the token: used to specify a multi-line string.

#symmetric operator overloading (commutativity): allows someone to swap the 1st and 2nd parameters in a two parameter function. Useful in the case of operator overloading.

?? #this tells the compiler that the next following syntax is a type. Useful for resolving ambiguous type grammar; it returns the procedure, struct type, or data scope that contains I *as a compile-time constant. (see 050)*

#through see if-case: case hall fall-through

#type tells the compiler that the next following syntax is a type. Useful for resolving ambiguous type grammar. (see § 26.13)

?? #type_info_none marks a struct such that the struct will not generate the type information; Struct does not keep runtime type info.

?? #type_info_procedures_are_void_pointers

makes all the member procedures of a struct void pointers when generating type information. See Type_Info_Struct_Member.Flags.PROCEDURE_WITH_VOID_POINTER_TYPE_INFO.

?? #type_info_no_size_compliant prevents the compiler from complaining about the size of the type information generated by a struct