Clava Testing Results

July 25, 2023

1 C++98

1.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Arraytypetraitexpr	0	False						
Cxxbindtemporaryexpr	0.404	True	0.06	True	1	True	0.045	True
Cxxboolliteralexpr	0.335	True	0.077	True	1	True	0.05	True
Cxxconstcastexpr	0.389	True	0.083	True	1	True	0.048	True
Cxxconstructexpr	0.419	True	0.124	True	1	True	0.049	True
Cxxconversiondecl	0.52	True	0.128	True	1	True	0.047	True
Cxxdefaultargexpr	0.449	True	0.103	True	1	True	0.062	True
Cxxdependentscopememberexpr	0.335	True	0.101	True	1	True	0.06	True
Cxxdestructordecl	0.339	True	0.073	True	1	True	0.056	True
Cxxdynamiccastexpr	0.391	True	0.144	True	1	True	0.06	True
Cxxfoldexpr	0	False						
Cxxfunctionalcastexpr	0.382	True	0.08	True	1	True	0.05	True
Cxxmembercallexpr	0.354	True	0.095	True	1	True	0.054	True
Cxxnewexpr	0.403	True	0.092	True	1	True	0.055	True
Cxxoperatorcallexpr	0.434	True	0.121	True	1	True	0.047	True
Cxxpseudodestructorexpr	0.37	True	0.093	True	1	True	0.047	True
Cxxreinterpretcastexpr	0.371	True	0.066	True	1	True	0.047	True
Cxxscalarvalueinitexpr	0.385	True	0.084	True	1	True	0	False
Cxxstaticcastexpr	0.384	True	0.074	True	1	True	0.047	True
Cxxthisexpr	0.329	True	0.075	True	1	True	0.053	True
Cxxthrowexpr	0.629	True	0	False				
Cxxtypeidexpr	0.524	True	0	False				
Cxxunresolvedconstructexpr	0.311	True	0.071	True	1	True	0.043	True
Classscopefunctionspecializationdecl	0	False						
Classtemplatepartialspecializationdecl	0.343	True	0.08	True	1	True	0	False
Classtemplatespecializationdecl	0.352	True	0.079	True	1	True	0.053	True
Dependentscopedeclrefexpr	0.343	True	0.093	True	1	True	0.046	True
Exprwithcleanups	0.376	True	0.09	True	1	True	0.049	True
Filescopeasmdecl	0	False						
Frienddecl	0.346	True	0.075	True	1	True	0.054	True
Functiontemplatedecl	0.364	True	0.081	True	1	True	0.047	True

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Gnunullexpr	0.336	True	0.063	True	1	True	0.055	True
Implicitcastexpr	0.392	True	0.086	True	1	True	0.054	True
Initlistexpr	0.352	True	0.082	True	1	True	0.057	True
Linkagespecdecl	0.378	True	0.069	True	1	True	0.043	True
Materializetemporaryexpr	0.356	True	0.075	True	1	True	0.049	True
Namespacealiasdecl	0.42	True	0.083	True	1	True	0.049	True
Namespacedecl	0.416	True	0.077	True	1	True	0.052	True
Nontypetemplateparmdecl	0.445	True	0.11	True	1	True	0.051	True
Opaquevalueexpr	0.418	True	0.102	True	1	True	0.053	True
Parenlistexpr	0.393	True	0.089	True	1	True	0.049	True
Sizeofpackexpr	0.386	True	0.08	True	1	True	0.043	True
Substnontypetemplateparmexpr	0.684	True	0.094	True	1	True	0.645	True
Templatetypeparmdecl	0.312	True	0.059	True	1	True	0.047	True
Unresolvedusingvaluedecl	0.367	True	0.074	True	1	True	0	False
Usingdirectivedecl	0.346	True	0.067	True	1	True	0.057	True
Vaargexpr	0.425	True	0.079	True	1	True	0.062	True
And	0.364	True	0.072	True	1	True	0.05	True
And_eq	0.341	True	0.074	True	1	True	0.048	True
Bitand	0.406	True	0.074	True	1	True	0.06	True
Bitor	0.393	True	0.067	True	1	True	0.048	True
Bool	0.366	True	0.067	True	1	True	0.054	True
Break_do	0.368	True	0.075	True	1	True	0.049	True
Break_for	0.369	True	0.066	True	1	True	0.047	True
Break_switch	0.364	True	0.082	True	1	True	0.047	True
Break_while	0.42	True	0.076	True	1	True	0.048	True
Case	0.395	True	0.083	True	1	True	0.051	True
Catch	0.401	True	0.079	True	1	True	0.049	True
Char	0.351	True	0.07	True	1	True	0.048	True
Class	0.356	True	0.07	True	1	True	0.046	True
Class_public	0.481	True	0.079	True	1	True	0.055	True
Compl	0.411	True	0.085	True	1	True	0.055	True
Const	0.395	True	0.084	True	1	True	0.051	True
Const_cast	0.376	True	0.097	True	1	True	0.051	True
Continue_do_while_loop	0.323	True	0.093	True	1	True	0.055	True
Continue_for_loop	0.337	True	0.089	True	1	True	0.053	True
Continue_while_loop	0.393	True	0.094	True	1	True	0.047	True
Default	0.376	True	0.093	True	1	True	0.051	True
Delete_ptr	0.382	True	0.067	True	1	True	0.055	True
Do_while	0.366	True	0.095	True	1	True	0.049	True
Double_var_decl	0.341	True	0.068	True	1	True	0.049	True
Dynamic_cast	0.388	True	0.093	True	1	True	0.047	True
Enum_decl	0.311	True	0.065	True	1	True	0.052	True
Explicit_struct_member_decl	0.407	True	0.072	True	1	True	0.049	True
Extern_language_func_decl	0.3	True	0.059	True	1	True	0.057	True

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
False	0.353	True	0.084	True	1	True	0.055	True
Float_var_decl	0.344	True	0.08	True	1	True	0.054	True
For_loop	0.399	True	0.076	True	1	True	0.06	True
Friend_member_decl	0.318	True	0.069	True	1	True	0.048	True
Goto	0.344	True	0.093	True	1	True	0.048	True
If	0.365	True	0.076	True	1	True	0.052	True
If_else	0.347	True	0.094	True	1	True	0.049	True
Inline_func_decl	0.396	True	0.084	True	1	True	0.052	True
Int_var_decl	0.349	True	0.072	True	1	True	0.058	True
Long_var_decl	0.363	True	0.076	True	1	True	0.044	True
Mutable_struct_member_decl	0.435	True	0.089	True	1	True	0.072	True
Named_union_decl	0.338	True	0.077	True	1	True	0.05	True
Namespace	0.311	True	0.061	True	1	True	0.05	True
New	0.418	True	0.084	True	1	True	0.049	True
Not	0.343	True	0.077	True	1	True	0.051	True
Not_eq	0.384	True	0.064	True	1	True	0.051	True
Operator	0.433	True	0.115	True	1	True	0.053	True
Or	0.395	True	0.087	True	1	True	0.048	True
Or_eq	0.37	True	0.087	True	1	True	0.048	True
Private	0.363	True	0.069	True	1	True	0.049	True
Protected_member_decl	0.357	True	0.076	True	1	True	0.048	True
Register	0.287	True	0.054	True	1	True	0.047	True
Return	0.356	True	0.084	True	1	True	0.048	True
Short_val_decl	0.388	True	0.079	True	1	True	0.051	True
Signed_var_decl	0.356	True	0.073	True	1	True	0.043	True
Sizeof	0.372	True	0.069	True	1	True	0.053	True
Static_cast	0.351	True	0.07	True	1	True	0.046	True
Static_var_decl	0.372	True	0.097	True	1	True	0.058	True
Struct_decl	0.387	True	0.056	True	1	True	0.05	True
Switch_case	0.369	True	0.092	True	1	True	0.048	True
Template_decl	0.393	True	0.087	True	1	True	0.05	True
Template_typename	0.368	True	0.085	True	1	True	0.047	True
This	0.342	True	0.079	True	1	True	0.047	True
Throw	0.893	True	0.121	True	1	True	0.591	True
True	0.351	True	0.07	True	1	True	0.055	True
Try	0.369	True	0.075	True	1	True	0.115	True
Typedef	0.384	True	0.057	True	1	True	0.05	True
Typeid	0.383	True	0.089	True	1	True	0.056	True
Unsigned_var_decl	0.423	True	0.118	True	1	True	0.052	True
Using	0.357	True	0.07	True	1	True	0.057	True
Using_namespace	0.34	True	0.067	True	1	True	0.054	True
Virtual_struct_member_decl	0.336	True	0.074	True	1	True	0.046	True
Void_func_decl	0.384	True	0.051	True	1	True	0.05	True
Volatile_var_decl	0.433	True	0.067	True	1	True	0.085	True

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Wchar_t_var_decl	0.312	True	0.066	True	1	True	0.052	True
While_loop	0.35	True	0.077	True	1	True	0.051	True
Xor	0.369	True	0.083	True	1	True	0.046	True
Xor_eq	0.381	True	0.081	True	1	True	0.054	True

1.2 Graphical Analysis
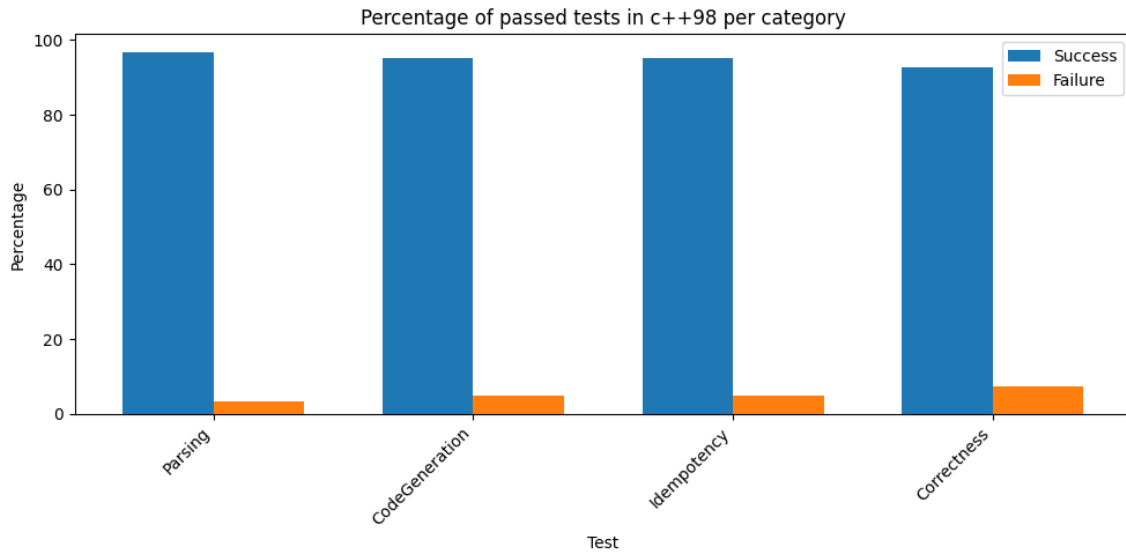
Figure 1: Percentage of passed tests in c++98

2 C++11

2.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Arrayinitindexexpr	0.435	True	0.084	True	1	True	0.058	True
Arrayinitloopexpr	0	False						
Atomicexpr	0.463	True	0.105	True	1	True	0	False
Cxxdefaultinitexpr	0.419	True	0.094	True	1	True	0.055	True
Cxxdeleteexpr	0.377	True	0.071	True	1	True	0.055	True
Cxxforrangestmt	0.405	True	0.117	True	1	True	0.066	True
Cxxinheritedctorinitexpr	0.446	True	0	False				
Cxxnoexceptexpr	0.402	True	0.066	True	1	True	0.05	True
Cxxnullptrliteralexpr	0.396	True	0.114	True	1	True	0.055	True
Cxxstdinitializerlistexpr	0.497	True	0.099	True	1	True	0.064	True
Constantexpr	0.449	True	0.087	True	1	True	0.054	True
Constructorusingshadowdecl	0.403	True	0	False				
Lambdaexpr	0.378	True	0.085	True	1	True	0.053	True
Packexpansionexpr	0.519	True	0.123	True	1	True	0.045	True
Typealiasdecl	0.461	True	0.084	True	1	True	0.047	True
Typetraitexpr	0.616	True	0.083	True	1	True	0	False
Unresolvedlookupexpr	0.39	True	0.081	True	1	True	0.046	True
Unresolvedusingtypenamedecl	0.349	True	0.079	True	1	True	0.047	True
Userdefinedliteral	0.633	True	0.093	True	1	True	0.397	True
Alignas	0.428	True	0.073	True	1	True	0	False
Alignof	0.793	True	0.115	True	1	True	0.722	True
Auto	0.404	True	0.089	True	1	True	0.052	True
Char16_t	0.384	True	0.077	True	1	True	0.049	True
Char32_t	0.497	True	0.122	True	1	True	0.051	True
Class_enum_type	0.42	True	0.064	True	1	True	0.051	True
Constexpr	0.436	True	0.065	True	1	True	0.073	True
Decltype	0.606	True	0.094	True	1	True	0.049	True
Default_explicity_special	0.357	True	0.076	True	1	True	0.043	True
Delete_funcs	0.523	True	0.048	True	1	True	0.597	True
For_ranged	0.366	True	0.096	True	1	True	0.048	True
Inline_namespace	0.368	True	0.043	True	1	True	0.046	True
Mutable_lambda	0	False						
Noexcept	0.302	True	0.053	True	1	True	0.041	True
Nullptr	0.35	True	0.07	True	1	True	0.048	True
Reinterpret_cast	0.628	True	0.11	True	1	True	0.056	True
Sizeof_ellipsis	0	False						
Static_assert	0.419	True	0.071	True	1	True	0.102	True
Thread_local	0.508	True	0.077	True	1	True	0.432	True
Using_alias	0	False						

2.2 Graphical Analysis
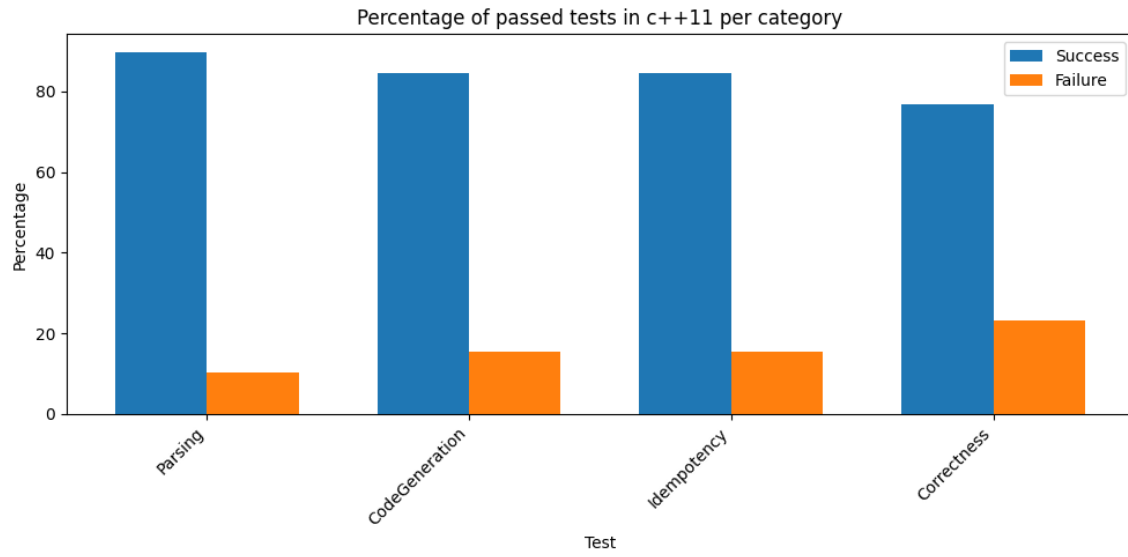
Figure 2: Percentage of passed tests in c++11

3 C++14

3.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Vartemplatedecl	0.401	True	0.066	True	1	True	0	False
Vartemplatepartialspecializationdecl	0	False						
Vartemplatespecializationdecl	0.378	True	0.085	True	1	True	0	False

3.2 Graphical Analysis
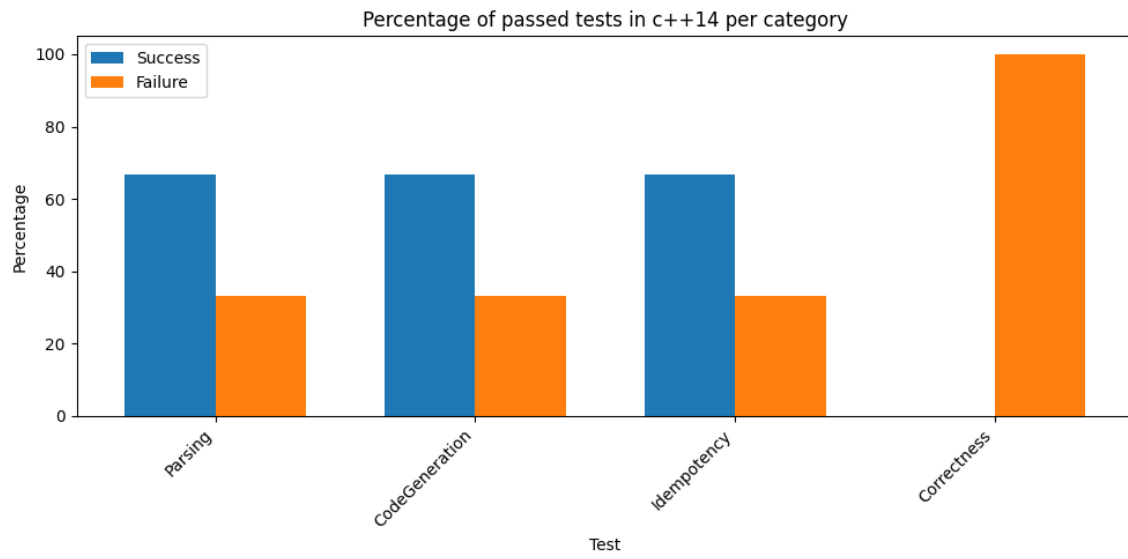
Figure 3: Percentage of passed tests in c++14

4 C++17

4.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Bindingdecl	0	False						
Cxxdeductionguidedecl	0	False						
Decompositiondecl	0	False						
Usingpackdecl	0.408	True	0.093	True	1	True	0.047	True
Auto_structured_binding	0	False						
Inline_specifier	0.438	True	0.093	True	1	True	0.054	True

4.2 Graphical Analysis
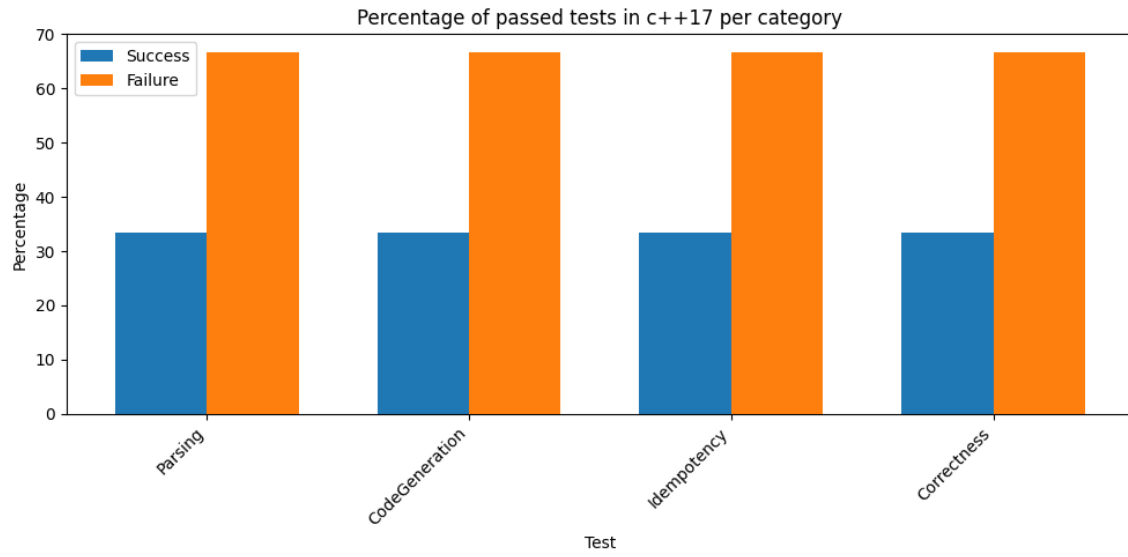
Figure 4: Percentage of passed tests in c++17

5 C++20

5.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Cxxrewrittenbinaryoperator	0.38	True	0.092	True	1	True	0.056	True
Coawaitexpr	0	False						
Conceptdecl	0	False						
Conceptspecializationexpr	0	False						
Coroutinebodystmt	0	False						
Coroutinesuspendexpr	0	False						
Coyieldexpr	0	False						
Dependentcoawaitexpr	0	False						
Requiresexpr	0	False						
Usingenumdecl	0	False						
Auto_abbrev_func_temp	0	False						
Char8_t	0	False						
Co_await_nf	0	False						
Co_return_nf	0	False						
Co_yield	0	False						
Concept	0	False						
Consteval	0	False						
Constinit	0	False						
Export	0	False						
Private_module	0	False						
Requires	0	False						
Using_enum	0	False						

5.2   Graphical Analysis
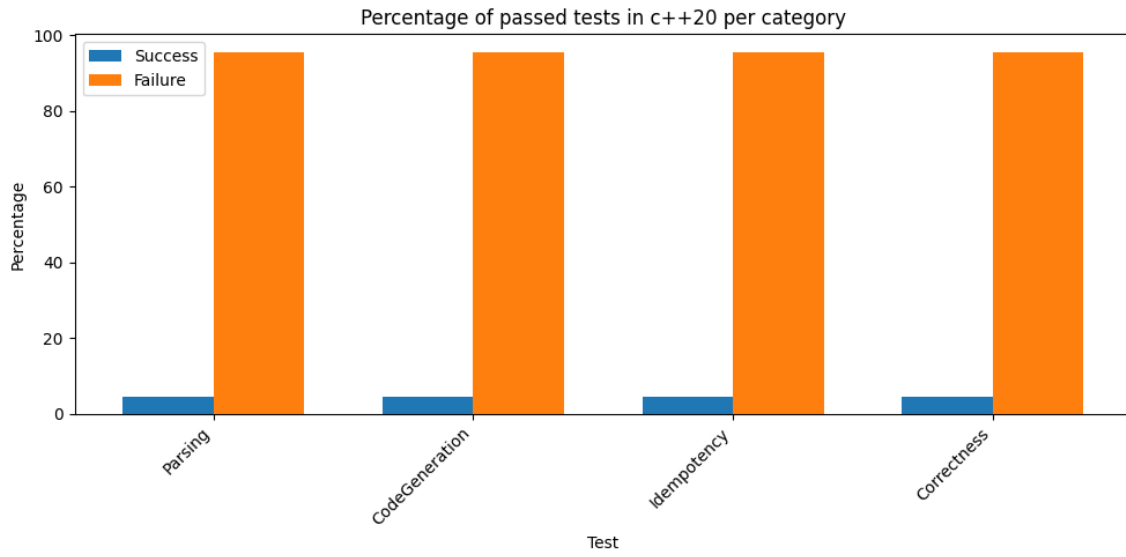
Figure 5: Percentage of passed tests in c++20

6 C89

6.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Addrlabelexpr	0	False						
Arrayinitindexexpr	0.421	True	0.148	True	1	True	0.064	True
Arraysubscriptexpr	0	False						
Binaryconditionaloperator	0.409	True	0.083	True	1	True	0.044	True
Binaryoperator	0.489	True	0.157	True	1	True	0.055	True
Cstylecastexpr	0.434	True	0.089	True	1	True	0.052	True
Callexpr	0.321	True	0.07	True	1	True	0.045	True
Characterliteral	0.345	True	0.084	True	1	True	0.051	True
Compoundassignoperator	0.373	True	0.087	True	1	True	0.054	True
Compoundliteralexpr	0.404	True	0.083	True	1	True	0.051	True
Conditionaloperator	0.388	True	0.078	True	1	True	0.046	True
Declrefexpr	0.324	True	0.083	True	1	True	0.049	True
Enumconstantdecl	0.353	True	0.066	True	1	True	0.049	True
Extvectorelementexpr	0	False						
Floatingliteral	0.352	True	0.064	True	1	True	0.047	True
Imaginaryliteral	0	False						
Implicitvalueinitexpr	0.344	True	0.078	True	1	True	0.053	True
Indirectfielddecl	0.312	True	0.072	True	1	True	0.053	True
Indirectgotostmt	0	False						
Initlistexpr	0.374	True	0.067	True	1	True	0.043	True
Integerliteral	0.344	True	0.064	True	1	True	0.05	True
Matrixsubscriptexpr	0.314	True	0.088	True	1	True	0.048	True
Memberexpr	0.38	True	0.102	True	1	True	0.054	True
Noinitexpr	0.361	True	0.082	True	1	True	0.042	True
Parenexpr	0.361	True	0.081	True	1	True	0.052	True
Stringliteral	0.326	True	0.065	True	1	True	0.049	True
Unaryexprortypetraitexpr	0.392	True	0.091	True	1	True	0.047	True
Unaryoperator	0.331	True	0.06	True	1	True	0.05	True
Asm_func_decl	0	False						
Auto_var_decl	0.355	True	0.074	True	1	True	0.043	True
Char_var_decl	0.338	True	0.071	True	1	True	0.045	True
Const_var_decl	0.363	True	0.062	True	1	True	0.044	True
Do_while	0.433	True	0.08	True	1	True	0.053	True
Double_var_decl	0.332	True	0.077	True	1	True	0.051	True
Enum_decl	0.329	True	0.064	True	1	True	0.045	True
Extern_var_decl	0.359	True	0.066	True	1	True	0.044	True
Float_var_decl	0.375	True	0.079	True	1	True	0.047	True
For_loop	0.396	True	0.073	True	1	True	0.052	True
For_loop_break	0.327	True	0.095	True	1	True	0.047	True
For_loop_continue	0.372	True	0.092	True	1	True	0.056	True
Goto	0	False						

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
If	0.339	True	0.069	True	1	True	0.045	True
If_else	0.34	True	0.083	True	1	True	0.047	True
Int_var_decl	0.351	True	0.062	True	1	True	0.05	True
Long_var_decl	0.376	True	0.07	True	1	True	0.047	True
Named_union_decl	0.336	True	0.074	True	1	True	0.049	True
Prep_define	0.329	True	0.088	True	1	True	0.051	True
Prep_defined	0.343	True	0.088	True	1	True	0.042	True
Prep_elif	0.308	True	0.079	True	1	True	0.049	True
Prep_else	0.323	True	0.072	True	1	True	0.061	True
Prep_endif	0.327	True	0.072	True	1	True	0.045	True
Prep_error	0.329	True	0.073	True	1	True	0.045	True
Prep_if	0.345	True	0.082	True	1	True	0.044	True
Prep_ifdef	0.362	True	0.076	True	1	True	0.048	True
Prep_ifndef	0.339	True	0.068	True	1	True	0.046	True
Prep_include	0.306	True	0.049	True	1	True	0.056	True
Prep_line	0.348	True	0.063	True	1	True	0.05	True
Prep_pragma	0.336	True	0.053	True	1	True	0.045	True
Prep_undef	0.308	True	0.084	True	1	True	0.048	True
Register_var_decl	0.345	True	0.068	True	1	True	0.066	True
Return_stmt	0.309	True	0.057	True	1	True	0.047	True
Short_var_decl	0.389	True	0.082	True	1	True	0.049	True
Signed_var_decl	0.321	True	0.062	True	1	True	0.05	True
Sizeof	0.315	True	0.068	True	1	True	0.054	True
Static_var_decl	0.392	True	0.08	True	1	True	0.045	True
Struct_decl	0.367	True	0.067	True	1	True	0.044	True
Switch_case	0.332	True	0.091	True	1	True	0.05	True
Switch_default	0.415	True	0.092	True	1	True	0.045	True
Typedef_decl	0.347	True	0.077	True	1	True	0.046	True
Unnamed_union_decl	0	False						
Unsigned_var_decl	0.381	True	0.086	True	1	True	0.047	True
Void_func_decl	0.321	True	0.06	True	1	True	0.048	True
Volatile_var_decl	0.332	True	0.067	True	1	True	0.044	True
While_stmt	0.418	True	0.086	True	1	True	0.045	True

6.2   Graphical Analysis
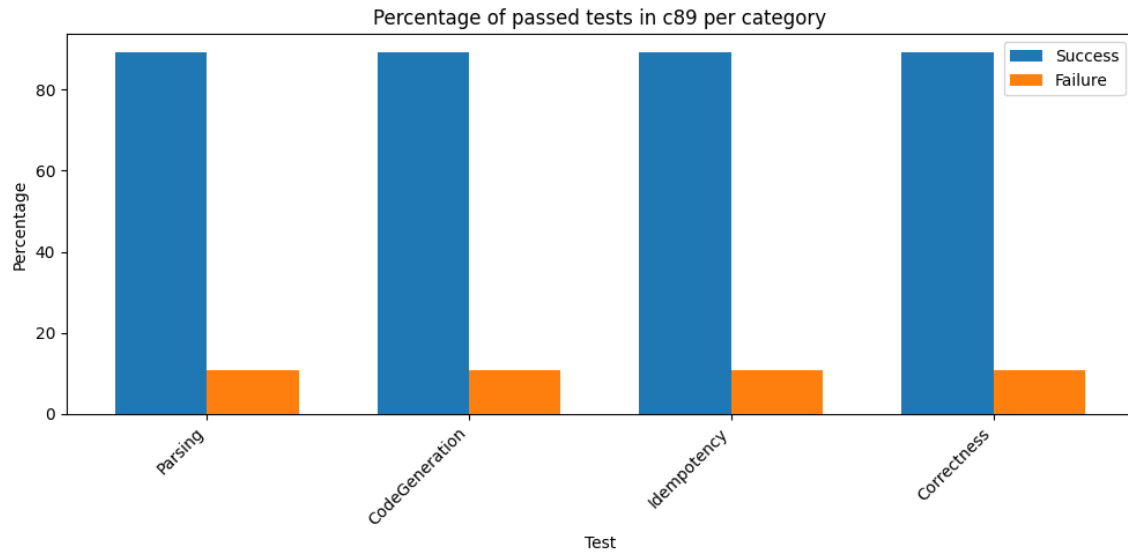
Figure 6: Percentage of passed tests in c89

7 C99

7.1 Tests

	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
_bool_var_decl	0	False						
_complex_var_decl	0	False						
_imaginary	0	False						
_pragma	0.386	True	0.064	True	1	True	0.05	True
Inline_func_decl	0.353	True	0.093	True	1	True	0.048	True
Restrict	0	False						

7.2 Graphical Analysis
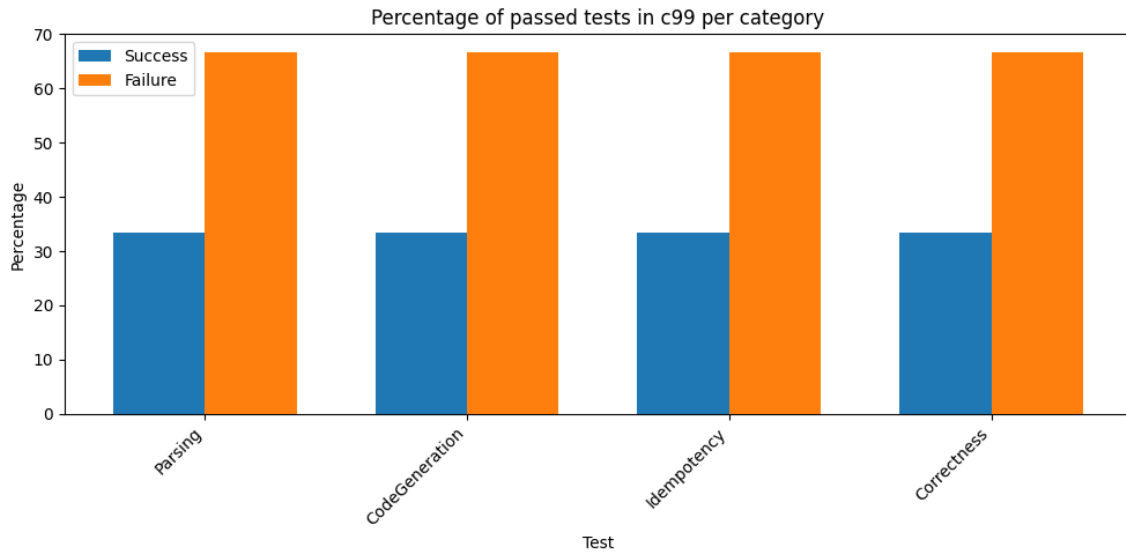
Figure 7: Percentage of passed tests in c99

8 C11

8.1 Tests

|	Parsing		Code Generation		Idempotency		Correctness	
	Time	Success	Time	Success	Tries	Success	Time	Success
Genericselectionexpr	0	False						
_alignas	0.37	True	0.079	True	1	True	0.053	True
_alignof	0.419	True	0.074	True	1	True	0.065	True
_atomic	0.315	True	0.063	True	1	True	0.046	True
_generic	0	False						
_noreturn	0.37	True	0.089	True	1	True	0.069	True
_static_assert	0.317	True	0.074	True	1	True	0.056	True
_thread_local	0.396	True	0.086	True	1	True	0.069	True

8.2 Graphical Analysis
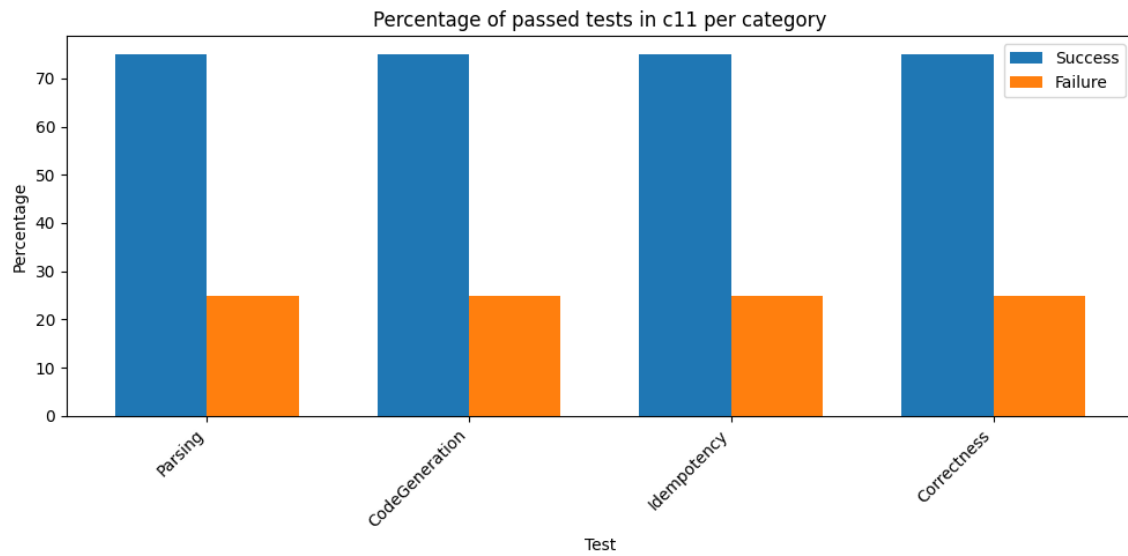
Figure 8: Percentage of passed tests in c11
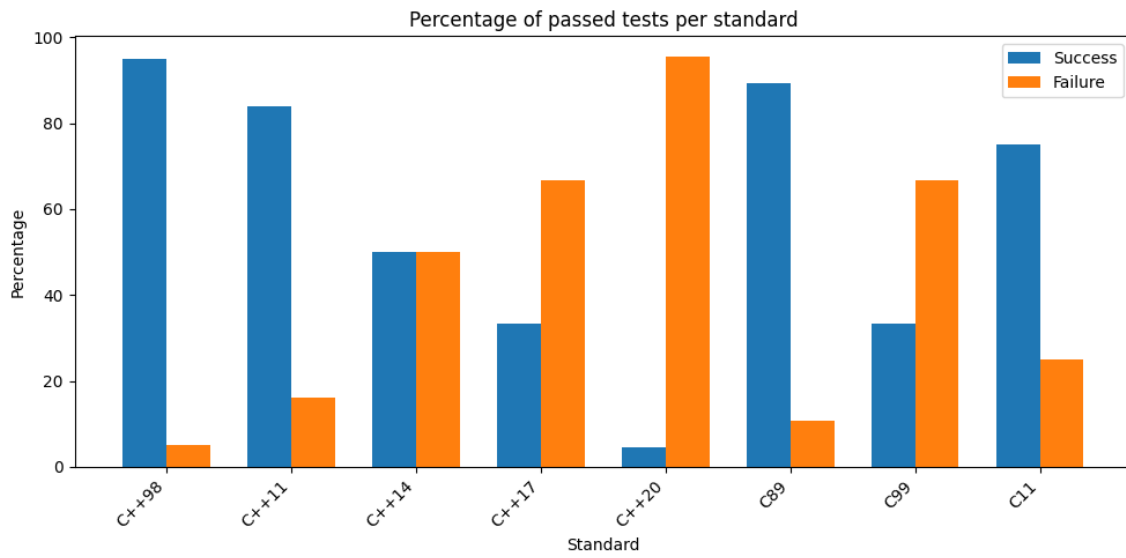
9 Percentages

Percentage of passed tests: 93.83 %

Figure 9: Percentage of passed tests per standard