

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test program	Test Program Bug ID	Trigger Bug	Impact	Bug ID text
https://github	https://github	Incorrect Output	FV Error	Formal Verification	SMT-LIB Script	Incorrect Model Checker Implement	1. CL 2. play with numerical value	1	14375		14375
https://github	https://github	Incorrect Output	Incorrect Syntax Analysis	CLI	Helper Message		1. CL	1	14259	Low Imp; Low Effo	14259
https://github	https://github	Performance Issue	Incorrect Optimization	CodeGen		Redundant Yul Opt	<i>NO TEST PROGRAM</i>	0	14241	Medium Low Effo	14241
https://github	https://github	Incorrect Output	FV Error	Formal Verification	Warning Message	Incorrect Model Checker Implement	1. CL 2. play with numerical value	1	14211		14211
https://github	https://github	Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	1. language feature (memory, array, struct, public, pure, e	1	14182		14182
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bug	1	14181		14181
https://github	https://github	Error Omission	FV Error	Formal Verification		Incorrect Model Checker Implement	1. SMT enabler 2. play with numerical value 3. language feature (public)	1	14111		14111
https://github	https://github	Crash	Memory Issue	Yul	Reject Valid Program	Allocation Problem	yul	1	14037	yul	14037
https://github	https://github	Crash	Incorrect Syntax Analysis	Parser	Poor Error Message		1. invalid code	1	14016	Low Imp; Low Effo	14016
https://github	https://github	Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference	int8	1	14001	Low Imp; Low Effo	14001
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1. annotation (@custom:smtchecker abstract-function-non	1	13945	Low Effo	13945
https://github	https://github	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error message	Misleading Error Message	1. metamorphic relation 2. abstract contract	1	13824	Low Imp; Low Effo	13824
https://github	https://github	Error Omission	Incorrect Exception Handling	Code Analyzer CodeGen		The original specification about the i is not well-designed and is modified	1. 'immutable' keyword	1	13769	Medium Low Effo	13769
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	Scope	1. language feature (library, external) 3. metamorphic relation	1	13765	Low Imp; Low Effo	13765
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		Scope	1. language feature (library) 2. metamorphic relation	1	13764	Medium Low Effo	13764
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1. SMT enabler 2. language feature (mapping)	1	13735	array	13735
https://github	https://github	Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program		1. annotation (@custom:smtchecker b; @custom:smtche 2. SMT enabler 3. language feature (internal)	1	13732		13732
https://github	https://github	Error Omission	Incorrect Syntax Analysis	Parser			1. invalid code 2. language feature (event)	1	13681	Low Imp; Low Effo	13681
https://github	https://github	Incorrect Output	Incorrect Optimization	CodeGen	ByteCode		1. assembly	1	13680	yul	13680
https://github	https://github	Incorrect Output	Incorrect Exception Handling	Interface	ByteCode	missing type checking	1. CL	1	13628	Low Imp; Low Effo	13628
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	1. SMT enabler 2. language feature (library internal)	1	13477	Medium Low Effo	13477
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1. language feature (struct delete) 2. SMT enabler	1	13432		13432
https://github	https://github	Crash	Incorrect Semantic Analysis	Formal Verification	Poor Error Message	missing type checking	1. invalid code 2. tuple	1	13366		13366
https://github	https://github	Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	keyword: memory	1	13266		13266
https://github	https://github	Crash	Memory Issue	CodeGen	Reject Valid Program	Access the slot of mapping var	yul: mstore	1	13259	yul	13259
https://github	https://github	Incorrect Output	Memory Issue	CodeGen	ByteCode	Memory Copy	dynamic array keyword: calldata	1	13249		13249
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	tuple	1	13208		13208
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	1. abi encoder 2. event 3. error	1	13101		13101
https://github	https://github	Error Omission	Incorrect Optimization	Yul			1. assembly	1	13039	yul	13039
https://github	https://github	Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Misleading Error Message	<i>NO TEST PROGRAM</i>	0	12998		12998
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	<i>NO TEST PROGRAM</i>	0	12973	member	12973
https://github	https://github	Crash	Incorrect Semantic Analysis	Interface	Poor Error Message	Incorrect Model Checker Implement	1. mapping 2. int256	1	12953	mapping	12953
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode		1. event emit 2. metamorphic relation	1	12880	ABI	12880
https://github	https://github	Error Omission	Incorrect Code Generation	evmasm			1. assembly	1	12860	yul	12860
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	AST Visitor	1. function overload	1	12780		12780
https://github	https://github	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error message	Poor Error Message	1. external 2. abi encoder	1	12776		12776
https://github	https://github	Incorrect Output	Incorrect Optimization	evmasm Yul CodeGen	ByteCode		1. bytes 2. memory	0	12738		12738
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	incorrect type checking	1. memory 2. abi encoder	1	12718		12718
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		OOP	1. class inheritance	1	12615		12615
https://github	https://github	Incorrect Output	Memory Issue	CodeGen	Value(s) of Variable(s)	Memory Copy	yul: mstore	1	12600	yul	12600
https://github	https://github	Crash	Memory Issue	CodeGen	Reject Valid Program	Memory Copy	keyword: memory	1	12558		12558
https://github	https://github	Crash	Memory Issue	CodeGen	Reject Valid Program	Memory Copy	dynamic array	1	12546		12546
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	Emitted Event		1. event emit 2. bytes	1	12535	IR	12535
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	1. override	1	12528		12528

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test	as Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	1. use of undefined construct		1	12505		12505
https://github	https://github	Hang	Incorrect Optimization	evmasm			1. Large Contract 2. CL		1	12406		12406
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	1. class inheritance 2. immutable		1	12379		12379
https://github	https://github	Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Unnecessary Error Reporting	1. SMT enabler 2. library, tuple		1	12222		12222
https://github	https://github	Crash	Memory Issue	Code Analyzer	Reject Valid Program	storage size	large static array		1	12159		12159
https://github	https://github	Crash	Incorrect Semantic Analysis	Yul	Reject Valid Program	Scope	1. external, 2. assembly		1	12158	yul	12158
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	Warning Message	No specification about codegen an	<u>NO TEST PROGRAM</u>		0	12068	yul	12068
https://github	https://github	Crash	Incorrect Exception Handling	AST	Poor Error Message	Incorrect Error Reporting	1. typedef, mapping, library		1	12066		12066
https://github	https://github	Crash	Incorrect Yul Analysis	Yul	Reject Valid Program	Incorrect Source Location	yul annotation		1	12065	yul	12065
https://github	https://github	Error Omission	Incorrect Code Generation	CodeGen			1. modifier, external		1	12061	IR	12061
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program		1. metamorphic relation		1	11955		11955
https://github	https://github	Crash	Memory Issue	CodeGen	Reject Valid Program	calldata	yul calldata		1	11929		11929
https://github	https://github	Incorrect Output	FV Error	Formal Verification	Warning Message	Incorrect Model Checker Implement	1. external, payable		1	11885		11885
https://github	https://github	Crash	Incorrect Exception Handling	Error Handling	Reject Valid Program	Incorrect Error Handling Implementation			1	11878	several files	11878
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	multiple import		1	11855	several files	11855
https://github	https://github	Incorrect Output	Incorrect Code Generation	Yul	Value(s) of Variable(s)		<u>NO TEST PROGRAM</u>		0	11736	IR	11736
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	1. assembly 2. CL 3. name shadowing		1	11734	yul	11734
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	library, internal		1	11710		11710
https://github	https://github	Incorrect Output	Incorrect Optimization	CLI	ByteCode	Incorrect Optimization for yul contra	yul		1	11708	yul	11708
https://github	https://github	Crash	Type Problem	CodeGen	Reject Valid Program	Incorrect Type Conversion	calldata, external, pure, bytes, memory		1	11677	conversion	11677
https://github	https://github	Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	1. unchecked 2. type()		1	11631		11631
https://github	https://github	Crash	Memory Issue	CodeGen	Reject Valid Program	Stack Pop Problem			1	11611		11611
https://github	https://github	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type	1. CL 2. calldata		1	11610		11610
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	modifier, interface		1	11557	incorrect type combination	11557
https://github	https://github	Incorrect Output	FileSystem Issue	CLI	Metadata Output	CL reading	empty contract		1	11553		11553
https://github	https://github	Crash	FileSystem Issue	CLI	Poor Error Message		1. CL		1	11552		11552
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		big constant, bitwise negation		1	11526	AST->bytecode	11526
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program	The trivial implementation is about	s assembly		1	11524	yul	11524
https://github	https://github	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	Scope	library, external, internal		1	11522		11522
https://github	https://github	Incorrect Output	Incorrect Optimization	Parser	ByteCode	initialization of the optimization	<u>NO TEST PROGRAM</u>		0	11521		11521
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	virtual, override, abstract, modifier		1	11506		11506
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	control flow	external		1	11501		11501
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	control flow	keccak256, abi.encode		1	11497		11497
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	OOP	override modifier		1	11483		11483
https://github	https://github	Crash	Incorrect Semantic Analysis	AST CodeGen	Reject Valid Program	Scope	override, inheritance external		1	11445		11445
https://github	https://github	Incorrect Output	Incorrect Semantic Analysis	CodeGen	Value(s) of Variable(s)	Incorrect Source Location	event, emit, block		1	11440		11440
https://github	https://github	Crash	Incorrect Optimization	Code Analyzer	Reject Valid Program	Optimization Setting	<u>NO TEST PROGRAM</u>		0	11418		11418
https://github	https://github	Incorrect Output	Type Problem	AST	Error Message	Incorrect Type System	try-catch		1	11405		11405
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler calldata, bytes, external		1	11404	array slice	11404
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	mapping, storage, abstract		1	11356		11356
https://github	https://github	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type	mapping, event		1	11353		11353
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	view, return		1	11341		11341
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler bytes, array		1	11336	array	11336
https://github	https://github	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting	external, library, using		1	11325		11325
https://github	https://github	Crash	FileSystem Issue	CLI	Poor Error Message	Compatibility Issue	CL		1	11233		11233
https://github	https://github	Error Omission	FV Error	Formal Verification		Incorrect Model Checker Implement	library, interface, require, assert		1	11213		11213
https://github	https://github	Crash	Doc Error	Parser Code Analyzer	Reject Valid Program				1	11194		11194
https://github	https://github	Incorrect Output	Incorrect Optimization	evmasm Code Analyzer	Assembly Code		assembly CLI --optimize external, payable, receive()		1	11131	yul	11131
https://github	https://github	Crash	Incorrect Semantic Analysis	AST	Poor Error Message	Circular Dependence	CLI --ir		1	11128		11128
https://github	https://github	Incorrect Output	Incorrect Yul Analysis	Yul	ByteCode	Incorrect Source Location			1	11068		11068
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ArraySlice `arr[beg:end]`		1	11064	array	11064
https://github	https://github	Crash	Incorrect Yul Analysis	LangUtil	Poor Error Message	Incorrect Source Location	empty Yul		1	11041	yul	11041
https://github	https://github	Crash	FileSystem Issue	CLI	Reject Valid Program		CL		1	11039	several files	11039

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github.com	https://github.com	Error Omission	FV Error	Formal Verification		Incorrect SMT Encoding	SMT enabler bytes, internal, assert, require	1	11027	array		11027
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Function Call Graph	bytes, inheritance	1	11007			11007
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	.pop, [], SMT enabler	1	11005	array		11005
https://github.com	https://github.com	Crash	Memory Issue	CodeGen	Reject Valid Program	Allocation Problem	keyword: memory	1	11001			11001
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type	abstract, public	1	10988			10988
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, uint256	1	10985	member		10985
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Yul	Reject Valid Program	missing type checking	assembly	1	10975	yul		10975
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Too Restrict Error Reporting	external, pure	1	10958	several files		10958
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	constant, import	1	10956	several files		10956
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		bytes, pure, modifier	1	10947	IR		10947
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Incorrect Error Reporting	fixed	1	10940			10940
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	OOP	super	1	10926			10926
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		(address(1).call(""))	1	10920	IR		10920
https://github.com	https://github.com	Crash	Memory Issue	CodeGen	Reject Valid Program	Allocation Problem		1	10918			10918
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		delete	1	10917	IR		10917
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	constructor, modifier	1	10916			10916
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bytes, push	1	10914	array		10914
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Poor Error Message	OOP	override, calldata, inheritance	1	10900			10900
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	CodeGen	Poor Error Message	CLI syntax	fixed	1	10895			10895
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting	event	1	10892			10892
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting	selector	1	10891			10891
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Unnecessary Error Reporting	uint[] calldata	1	10889			10889
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	OOP	receive()	1	10882			10882
https://github.com	https://github.com	Crash	Doc Error	Parser	Reject Valid Program		comment	1	10881			10881
https://github.com	https://github.com	Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect Model Checker Implement	ternary	1	10876			10876
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Reject Valid Program	Null Pointer Dereference		1	10874			10874
https://github.com	https://github.com	Crash	Type Problem	Code Analyzer CodeGen								
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	storage array, pop	1	10870	conversion		10870
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	SMT enabler	1	10831			10831
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		Initialization	storage	1	10821			10821
https://github.com	https://github.com	Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect SMT Encoding	SMT enabler	1	10796			10796
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler	1	10793	array		10793
https://github.com	https://github.com	Hang	Incorrect Semantic Analysis	Code Analyzer		missing type checking	cyclical dependency	1	10732			10732
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ABI encoder assembly	1	10730	yul		10730
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	SMT enabler	1	10712			10712
https://github.com	https://github.com	Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect SMT Encoding	SMT enabler	1	10693			10693
https://github.com	https://github.com	Incorrect Output	Memory Issue	CodeGen	function returned value	storage -> memory	keyword: memory dynamic array	1	10689			10689
https://github.com	https://github.com	Error Omission	FV Error	Formal Verification		Incorrect Model Checker Implement	SMT enabler	1	10671			10671
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		function array	1	10667	AST->bytecode		10667
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	try catch, SMT enabler, while	1	10666			10666
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	virtual modifier, member access, SMT enabler	1	10660			10660
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, push()	1	10657	array		10657
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	CodeGen	Reject Valid Program		pragma solidity	1	10654			10654
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	missing type checking	abstract, virtual modifier, inheritance	1	10620			10620
https://github.com	https://github.com	Crash	Memory Issue	Yul	Reject Valid Program	Out-of-bounds Read	keyword: memory	1	10609	yul		10609
https://github.com	https://github.com	Error Omission	FV Error	Formal Verification		Incorrect Model Checker Implement	SMT enabler, interface	1	10576			10576
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Segfault	Incorrect SMT Encoding	SMT enabler, tuple, internal function outside of contract	1	10526	array, member		10526
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	array push assignment	1	10525	array		10525
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	library, tuple, using for	1	10524			10524
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	abstract modifier	1	10523			10523
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Incorrect Error Reporting	>>=(right shift)	1	10522			10522
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	Recursive struct definition	1	10517			10517
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	strucy array	1	10516			10516
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	OOP	(super), library	1	10485			10485
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bytes	1	10439	array		10439
https://github.com	https://github.com	Crash	Memory Issue	Formal Verification	Segfault	Out-of-bounds Read	keyword: memory	1	10436			10436
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Segfault		@return, modifier	1	10433			10433
https://github.com	https://github.com	Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect Model Checker Implement	SMT enabler	1	10306			10306
https://github.com	https://github.com	Incorrect Output	Others	evmasm	ByteCode	Linking Error	CL: --libraries Metamorphic Relation	1	10298			10298
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, bytes memory, &=	1	10252	array		10252
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Formal Verification	SMT analysis result	Scope	modifiers with branches	1	10200			10200

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https://github.com	https://github.com	Crash	Memory Issue	CodeGen	Reject Valid Program	Calldata	keyword: memory		1	10186		10186
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode		revert		1	10170	AST->bytecode	10170
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode				0	10156	ABI	10156
https://github.com	https://github.com	Error Omission	Incorrect Syntax Analysis	Parser			// SPDX-License-Identifier		1	10145		10145
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Reject Valid Program	Incorrect Error Type	CLI: --evm-version		1	10113		10113
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Incorrect Error Reporting	fixed >>>		1	10106		10106
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		int[15], calldata		1	10105	IR	10105
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	control flow			0	10084		10084
https://github.com	https://github.com	Crash	Doc Error	CLI	Reject Valid Program		struct, mapping, require		1	10059		10059
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	A.push() = B.push()		1	10058	array	10058
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	OOP	import pragma experimental ABIEncoderV2;		1	9970	several files	9970
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		modifier, import, pragma experimental ABIEncoderV2;		1	9969	several files	9969
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	incorrect type checking	mapping		1	9957		9957
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	read and write	memory		1	9952		9952
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	struct with mapping, constant		1	9951		9951
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Unnecessary Error Reporting	library, inheritance		1	9948		9948
https://github.com	https://github.com	Crash	Doc Error	Code Analyzer	Reject Valid Program		comment		1	9947		9947
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	lack type info extraction			1	9890		9890
https://github.com	https://github.com	Error Omission	Type Problem	AST		Incorrect Type Conversion	address		1	9857		9857
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Poor Error Message		CLI: --ir		1	9855	IR	9855
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking			0	9851		9851
https://github.com	https://github.com	Incorrect Output	Memory Issue	CodeGen	Error Message	Memory Cleanup	keyword: memory		1	9832		9832
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion	calldata		1	9821		9821
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	struct with mapping		1	9817		9817
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System			1	9815		9815
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	OOP	function overriding		1	9752		9752
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	virtual modifier		1	9745		9745
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, member access		1	9742	member	9742
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ternary		1	9741		9741
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, ~1		1	9699		9699
https://github.com	https://github.com	Crash	Doc Error	Code Analyzer	Poor Error Message		@inheritedoc		1	9669		9669
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	import		1	9667	several files	9667
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Reject Valid Program	Poor Error Message	function array		1	9666		9666
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding	tuple		1	9659	tuple	9659
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding	tuple		1	9631	tuple	9631
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		constructor		1	9629		9629
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	fallback(), assembly		1	9618	yul	9618
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking			0	9611		9611
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion	super		1	9596		9596
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	mapping		1	9595	mapping	9595
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	Yul	ByteCode				1	9573	yul	9573
https://github.com	https://github.com	Crash	Doc Error	Code Analyzer	Poor Error Message				1	9560		9560
https://github.com	https://github.com	Error Omission	Incorrect Optimization	evmasm			assembly		1	9558	yul	9558
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Poor Error Message	Scope	constructor, internal		1	9557		9557
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	read and write about immutable	immutable		1	9550		9550
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	signed exponent		1	9548		9548
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple		1	9519	array	9519
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	constructor		1	9509		9509
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	array		1	9508	array	9508
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	index access of an array		1	9505	array, member	9505
https://github.com	https://github.com	Crash	Incorrect Yul Analysis	Yul	Reject Valid Program		CLI: yulrun --input-file assembly		1	9499	yul	9499
https://github.com	https://github.com	Crash	Incorrect Optimization	Yul	Reject Valid Program		CLI: --strict-assembly --optimize assembly		1	9472	yul	9472
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System			1	9443		9443
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Segfault	AST Visitor	CLI: --bin		1	9434		9434
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	address		1	9425		9425
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	large static array		1	9404		9404
https://github.com	https://github.com	Error Omission	Type Problem	AST		Incorrect Type System	ternary with functions		1	9381		9381
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple		1	9296		9296
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking			1	9270		9270
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple		1	9233	tuple	9233
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	struct, enum		1	9231		9231
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	library, import		1	9229		9229

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	using for	1	9217			9217
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	immutable	1	9207			9207
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	Yul	wasm code		yul	1	9205	yul		9205
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	memory struct	1	9174			9174
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	calldata, external	1	9134			9134
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	evmasm	ByteCode	Incorrect Source Location		1	9133			9133
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	fixed type, bitwise operator	1	9087	tuple		9087
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		OOP		1	9065			9065
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	9028			9028
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	9021	array		9021
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	try catch	1	9016	array		9016
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	inline arrays of some types	1	9004			9004
https://github.com	https://github.com	Crash	Type Problem	AST CodeGen Code Analyzer	Reject Valid Program	Incorrect Type Conversion		1	8991			8991
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8971	tuple		8971
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8963	yul		8963
https://github.com	https://github.com	Crash	Incorrect Code Generation	Yul	Reject Valid Program		yul	1	8960	yul		8960
https://github.com	https://github.com	Crash	Memory Issue	Formal Verification	Reject Valid Program	Out-of-bounds Read		1	8947			8947
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	large exponent	1	8929			8929
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Poor Error Message	stack array is too large	out-of-bound array access	1	8923			8923
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	incorrect type checking	assembly	1	8881	yul		8881
https://github.com	https://github.com	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Poor Error Message		1	8875			8875
https://github.com	https://github.com	Incorrect Output	Doc Error	Parser	userdoc		--userdoc	1	8820			8820
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8817			8817
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	tuple	1	8760			8760
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference		1	8738			8738
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Interface	Reject Valid Program		internal constructor	1	8712			8712
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	tuple	1	8711			8711
https://github.com	https://github.com	Crash	Memory Issue	Formal Verification	Reject Valid Program	Null Pointer Dereference		1	8674			8674
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	IR		tuple	1	8671	IR		8671
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8667	array slice		8667
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting		1	8656			8656
https://github.com	https://github.com	Incorrect Output	Doc Error	Interface	userdoc		comment	1	8634			8634
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	8623			8623
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System		1	8590			8590
https://github.com	https://github.com	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Incorrect Model Checker Implementation		1	8577			8577
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	size	tuple	1	8450			8450
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message	missing type checking	abstract contract, inheritance	1	8434			8434
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	8419			8419
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	fixed, constant, assembly	1	8412	yul		8412
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	8407	tuple		8407
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting		1	8406			8406
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	assembly	1	8386	yul		8386
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	SolUtil	Reject Valid Program	Format Issue	sha256	1	8368			8368
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			0	8308	IR		8308
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	IR		ternary	1	8302	IR		8302
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting Location		1	8296			8296
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	AST	Poor Error Message	uint256 array	1	8286			8286
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type	call a uncallable var	1	8283			8283
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	assignment to mapping	1	8278			8278
https://github.com	https://github.com	Crash	Incorrect Optimization	evmasm	Reject Valid Program		CL: solfuzzer duplicate code (true ? {previously-defined v1} : {previous	1	8269			8269
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	recursive type declaration	1	8266			8266
https://github.com	https://github.com	Crash	Memory Issue	AST	Poor Error Message	copy	yul	1	8265	yul		8265
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		dynamic-sized array, calldata, external	1	8210	bytecode		8210
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	evmasm	Assembly			1	8171	evmasm		8171
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	Yul	IR		yul	1	8072	yul		8072
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	Yul	IR		yul	1	7847	yul		7847
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		CL: --evm-version istanbul chainid	1	7711			7711
https://github.com	https://github.com	Crash	Incorrect Code Generation	Code Analyzer	Reject Valid Program	OOP		0	7627	IR		7627
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	pass library as argument member access of a library	1	7625			7625
https://github.com	https://github.com	Incorrect Output	Others	evmasm	IR	Uppercase	yul	1	7567	yul		7567

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test gas	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion		0	7558			7558
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		modifier	1	7550			7550
https://github.com	https://github.com	Crash	Incorrect Exception Handling	AST	Reject Valid Program	Incorrect Error Reporting	array index	1	7549			7549
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking	identifier collision	1	7488			7488
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	arrays of recursive structs	1	7448			7448
https://github.com	https://github.com	Crash	Incorrect Optimization	Yul	Reject Valid Program		yul	1	7416	yul		7416
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	evmasm	Assembly		yul	1	7411	yul		7411
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	push to a storage array of mapping	1	7410			7410
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		pop a dynamic storage array of mapping	1	7378	bytecode		7378
https://github.com	https://github.com	Crash	Incorrect Optimization	Yul	Reject Valid Program		yul CLT: --strict-assembly --optimize	1	7356	yul		7356
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	overriding function	1	7314			7314
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler array index	1	7305			7305
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	yul	1	7296	yul		7296
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	Scope	import as	1	7273			7273
https://github.com	https://github.com	Incorrect Output	Others	LangUtil	Warning Message	Format Issue		0	7185			7185
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Formal Verification	address	Incorrect Source Location	this	1	7168			7168
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	branch, tuple, inline function	1	7164	tuple		7164
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	>>=	1	7163			7163
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	inline function from other sources	1	7162	several files		7162
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	uncalled transfer and send function	1	7155			7155
https://github.com	https://github.com	Incorrect Output	Doc Error	Parser	userdoc		CLT: --devdoc comment	1	7150			7150
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	bytecode		calldata, memory	1	7114	yul		7114
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	Yul	pre-optimization trace		yul CLT: yulrun --input-file	1	7098	yul		7098
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Poor Error Message		yul	1	7060	yul		7060
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer			pure	1	7035			7035
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	returned value		array initialization	1	6995	bytecode		6995
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	staticcall.gas	1	6901			6901
https://github.com	https://github.com	Crash	Incorrect Code Generation	Yul	Reject Valid Program		yul CLT: --strict-assembly	1	6879	yul		6879
https://github.com	https://github.com	Performance Issue	Incorrect Optimization	Yul			yul	1	6866	yul		6866
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	6864			6864
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		struct containing an array of mapping	1	6783	bytecode		6783
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	abi.encode	1	6759			6759
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		constructor args with struct	1	6754	bytecode		6754
https://github.com	https://github.com	Performance Issue	Incorrect Optimization	Yul			yul	1	6731	yul		6731
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		Scope	identifiers named this/super	1	6617			6617
https://github.com	https://github.com	Performance Issue	Incorrect Optimization	Yul			yul	1	6590	yul		6590
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	inheritance, type casting	1	6575			6575
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implement	type casting	1	6574			6574
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		0	6562			6562
https://github.com	https://github.com	Performance Issue	Incorrect Optimization	Yul			yul	1	6528	yul		6528
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		function assignment	1	6525	bytecode		6525
https://github.com	https://github.com	Crash	Incorrect Yul Analysis	Yul	Reject Valid Program		yul	1	6510	yul		6510
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Unnecessary Error Reporting	abi.encode	1	6509			6509
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program		CLT: --ast assembly	1	6505	yul		6505
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	6497			6497
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking	using for, library	1	6451			6451
https://github.com	https://github.com	Incorrect Output	Type Problem	AST	Emitted Event	Incorrect Type System	emit event	1	6435			6435
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	evmasm	Assembly		yul	1	6246	yul		6246
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	internal array of functions	1	6215			6215
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	Parser	Poor Error Message		comment	1	6124			6124
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference	yul	1	6109	yul		6109
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Yul	Poor Error Message	Poor Error Message	assembly	1	6103	yul		6103
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	fixed size array state variable	1	5875			5875
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	Parser	Poor Error Message		import ""	1	5866			5866
https://github.com	https://github.com	Error Omission	Incorrect Yul Analysis	Yul		case	yul	1	5792	yul		5792
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	LangUtil	Reject Valid Program	Incorrect Source Location		1	5730			5730
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking		1	5722			5722
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Unimplemented		1	5721			5721
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	Yul	IR			0	5706			5706
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	getter function overriding	1	5556			5556

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	fixed-point		1	5551		5551
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	Nested structs that are part of a mapping		1	5520		5520
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	memory store with mappings		1	5518		5518
https://github.com	https://github.com	Crash	Memory Issue	CLI	Segfault	Null Pointer Dereference	keyword: calldata		1	5501		5501
https://github.com	https://github.com	Crash	Incorrect Optimization	Yul	Reject Valid Program		yul		1	5465 yul		5465
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	incorrect type checking	event and constructor with the same name		1	5459		5459
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CLI	Poor Error Message	Poor Error Message			0	5458		5458
https://github.com	https://github.com	Crash	Others	Interface	Poor Error Message	useLiteralContent			0	5456		5456
https://github.com	https://github.com	Crash	Incorrect Optimization	Yul	Reject Valid Program				1	5384 yul		5384
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Poor Error Message		view function		1	5279 bytecode		5279
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	function overriding, call super function		1	5130		5130
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	non-unsigned array index		1	5059		5059
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System			0	5058		5058
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	invalid number literal		1	5056		5056
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		internal function		1	5055 bytecode		5055
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	multi dimensional fixed-length array with 0 length		1	5054		5054
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	tuple		1	5053		5053
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	Hex literal + >32 FixedBytes type		1	5052		5052
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message		nested struct types		1	5048		5048
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	returned value				1	4893 bytecode		4893
https://github.com	https://github.com	Incorrect Output	Incorrect Syntax Analysis	CLI	Compilation Result		CLI: --standard-json		1	4884		4884
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	redundant type checking	Inheritance		1	4879		4879
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking			1	4864		4864
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program		inheritance, library, override		1	4832		4832
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Reject Valid Program		keyword: calldata, memory		1	4771		4771
https://github.com	https://github.com	Incorrect Output	Incorrect Syntax Analysis	Parser	Source Location	Incorrect Source Location			1	4743		4743
https://github.com	https://github.com	Performance Issue	Incorrect Syntax Analysis	Code Analyzer		Scope	large variable name		1	4718		4718
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	large index		1	4716		4716
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking			1	4715		4715
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	call a non-callable type		1	4711		4711
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	yul		1	4710 yul		4710
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	yul		1	4707 yul		4707
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type Conversion			1	4706		4706
https://github.com	https://github.com	Incorrect Output	FileSystem Issue	Interface	metadata				1	4702		4702
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System			1	4683		4683
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message				1	4679		4679
https://github.com	https://github.com	Hang	Others	AST					1	4673		4673
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program				0	4670		4670
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	control flow			1	4635		4635
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type			1	4585		4585
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation			1	4568		4568
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation			1	4567		4567
https://github.com	https://github.com	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Warning Message	Incorrect Error Reporting			1	4558		4558
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking			1	4535		4535
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer AST CodeGen	Reject Valid Program	Ownership			1	4517		4517
https://github.com	https://github.com	Crash	Memory Issue	Code Analyzer	Reject Valid Program	Stack Overflow	large array		1	4483		4483
https://github.com	https://github.com	Hang	Type Problem	AST		Incorrect Type System			1	4477		4477
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program				1	4476 bytecode		4476
https://github.com	https://github.com	Hang	Incorrect Optimization	evmasm	Gas				1	4471		4471
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	Scope			1	4417		4417
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	Scope			1	4414		4414
https://github.com	https://github.com	Incorrect Output	Memory Issue	Code Analyzer AST	Error Message		array		1	4382		4382
https://github.com	https://github.com	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message		event		1	4292		4292
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message				1	4260		4260
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	evmasm	Error Message				1	4162		4162
https://github.com	https://github.com	Crash	Memory Issue	CodeGen	Reject Valid Program				1	4051		4051
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking			1	3911		3911
https://github.com	https://github.com	Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion			1	3910		3910
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking			1	3889		3889
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message	static analysis			1	3861		3861
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program				1	3796		3796
https://github.com	https://github.com	Hang	Incorrect Optimization	Interface	Gas				1	3779		3779

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test program	Test Program Bug ID	Trigger Bug	Impact	Bug ID text
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	3770		3770
https://github	https://github	Hang	Incorrect Optimization	AST		number limit		1	3759		3759
https://github	https://github	Crash	Incorrect Exception Handling	AST	Poor Error Message	Poor Error Message		1	3738		3738
https://github	https://github	Crash	Doc Error	Parser	Reject Valid Program			1	3728		3728
https://github	https://github	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Lack Warning	yul	1	3547	yul	3547
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		static analysis		0	3522		3522
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	event			1	3493	bytecode	3493
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	3414		3414
https://github	https://github	Incorrect Output	Incorrect Syntax Analysis	Interface	JSON output	Incorrect Source Location		1	3409		3409
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	3325		3325
https://github	https://github	Performance Issue	Incorrect Semantic Analysis	Code Analyzer	RAM blowup	recursion		1	3323		3323
https://github	https://github	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message			1	3307		3307
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program	ABI		1	3293	bytecode	3293
https://github	https://github	Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	3291		3291
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	The runtime code			1	3271	bytecode	3271
https://github	https://github	Crash	Incorrect Code Generation	evmasm	Reject Valid Program			1	3085	evmasm	3085
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	ABI encoder		1	3069		3069
https://github	https://github	Incorrect Output	Memory Issue	CodeGen		Memory Allocation	keyword: memory dynamic array	1	3064		3064
https://github	https://github	Crash	Incorrect Syntax Analysis	Parser	Poor Error Message			1	3039		3039
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	3019		3019
https://github	https://github	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	3001		3001
https://github	https://github	Incorrect Output	Incorrect Syntax Analysis	Parser	Source Location			1	2984		2984
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	2977	bytecode	2977
https://github	https://github	Crash	Type Problem	AST CodeGen Code Analyzer	Poor Error Message	Incorrect Type System		1	2969		2969
https://github	https://github	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message			1	2965		2965
https://github	https://github	Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Incorrect Error Type	yul	1	2916	yul	2916
https://github	https://github	Crash	Memory Issue	Code Analyzer	Reject Valid Program	array length	large array, memory access	1	2915		2915
https://github	https://github	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message			1	2913		2913
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Poor Error Message			1	2912	bytecode	2912
https://github	https://github	Incorrect Output	Type Problem	AST	JSON	Incorrect Type System		1	2804		2804
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	ABI encoder		1	2764		2764
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	2752		2752
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	2739		2739
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	2733		2733
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		0	2676		2676
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program			1	2655		2655
https://github	https://github	Incorrect Output	Incorrect Syntax Analysis	CLI	Warning Message	CLI: --allow-paths		1	2147		2147
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer				1	2108		2108
https://github	https://github	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	2104	bytecode	2104
https://github	https://github	Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Poor Error Message		1	1799		1799
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	scope		1	1769		1769
https://github	https://github	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	returned value	missing type checking		1	1731		1731
https://github	https://github	Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	1724		1724
https://github	https://github	Error Omission	Memory Issue	AST		Too larger calldata array	large array	1	1721		1721
https://github	https://github	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1720		1720
https://github	https://github	Crash	Incorrect Syntax Analysis	CLI	Reject Valid Program	long linker commandline argument		1	1717		1717
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking		1	1709		1709
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	1696		1696
https://github	https://github	Incorrect Output	FileSystem Issue	CLI	File			0	1652		1652
https://github	https://github	Crash	FileSystem Issue	CLI			CLI	1	1647		1647
https://github	https://github	Incorrect Output	Incorrect Code Generation	CodeGen	Bytecode			1	1469	bytecode	1469
https://github	https://github	Hang	Incorrect Optimization	evmasm				1	1466		1466
https://github	https://github	Error Omission	Incorrect Semantic Analysis	evmasm		scope		1	1457		1457
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Segfault		self-referential constant	1	1436		1436
https://github	https://github	Incorrect Output	Incorrect Syntax Analysis	Parser	Bytecode			1	1433		1433
https://github	https://github	Incorrect Output	Incorrect Optimization	evmasm	Value of variable			1	1416		1416
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type Conversion		1	1415		1415
https://github	https://github	Incorrect Output	Memory Issue	evmasm	Warning Message	Stack Size	Yul	1	1368	yul	1368
https://github	https://github	Incorrect Output	Type Problem	AST	AST	Incorrect Type Information		1	1364		1364
https://github	https://github	Error Omission	Incorrect Semantic Analysis	AST CodeGen Parser		value range		1	1343		1343
https://github	https://github	Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	1286		1286

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test	gas	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking		1	1258				1258
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking		1	1250				1250
https://github.com	https://github.com	Error Omission	Type Problem	AST		Incorrect Type System		1	1246				1246
https://github.com	https://github.com	Crash	Memory Issue	AST	Reject Valid Program	Allocation		1	1242				1242
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	1192				1192
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding		1	1177				1177
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	1151				1151
https://github.com	https://github.com	Crash	Memory Issue	AST	Reject Valid Program	Null Pointer Dereference	dynamic array	1	1150				1150
https://github.com	https://github.com	Crash	Incorrect Exception Handling	evmasm	Poor Error Message	Too late Error Reporting		1	1145				1145
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	yul	1	1144	yul			1144
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	evmasm	Reject Valid Program			1	1135				1135
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	evmasm	Reject Valid Program			1	1134				1134
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	1131				1131
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	1116	bytecode			1116
https://github.com	https://github.com	Crash	Incorrect Exception Handling	AST	Reject Valid Program	Incorrect Error Type		1	1099				1099
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	Gas			1	1092	bytecode			1092
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	1083	bytecode			1083
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen				0	1075	bytecode			1075
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1040				1040
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1017				1017
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	988	bytecode			988
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Lack Checking	sha3	1	981				981
https://github.com	https://github.com	Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	output	missing type checking		1	976				976
https://github.com	https://github.com	Crash	Incorrect Exception Handling	CLI		Lack Checking		1	970				970
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	AST	Reject Valid Program	AST2Converter error		1	922				922
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	AST	AST JSON			1	853	JSON			853
https://github.com	https://github.com	Crash	Incorrect Code Generation	AST	Segfault			1	742	JSON			742
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Segfault			1	736	bytecode			736
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	CLI	Reject Valid Program	Scope	CLI	1	733				733
https://github.com	https://github.com	Crash	FileSystem Issue	CLI	Reject Valid Program		CLI: --ast	1	702				702
https://github.com	https://github.com	Incorrect Output	Incorrect Optimization	evmasm	Value of variable			1	692				692
https://github.com	https://github.com	Crash	Others	CLI	Reject Valid Program			1	674				674
https://github.com	https://github.com	Crash	FileSystem Issue	CLI	Reject Valid Program			1	651				651
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	647				647
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	621				621
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	asm			1	590	bytecode			590
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	evmasm	asm			1	564	evmasm			564
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	561				561
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	549				549
https://github.com	https://github.com	Error Omission	Incorrect Syntax Analysis	Parser				1	535				535
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type Conversion		1	530				530
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	526				526
https://github.com	https://github.com	Incorrect Output	Type Problem	Interface	JSON	Incorrect Type System		1	489				489
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	Value of variable			0	485	bytecode			485
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	Gas			1	484	bytecode			484
https://github.com	https://github.com	Incorrect Output	Incorrect Syntax Analysis	evmasm	Error Message		yul	1	478	yul			478
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	evmasm				1	472				472
https://github.com	https://github.com	Crash	Memory Issue	Interface	Reject Valid Program	Null Pointer Dereference	yul	1	466	yul			466
https://github.com	https://github.com	Crash	Type Problem	CodeGen	Reject Valid Program	Incorrect Type Conversion		1	446				446
https://github.com	https://github.com	Incorrect Output	Incorrect Syntax Analysis	Parser	Returned Value	Incorrect Lexical Analysis		0	428				428
https://github.com	https://github.com	Incorrect Output	Incorrect Exception Handling	CodeGen	Error Message	Poor Error Message		0	396				396
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	352				352
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	340				340
https://github.com	https://github.com	Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	339				339
https://github.com	https://github.com	Error Omission	Incorrect Semantic Analysis	AST		Scope		1	280				280
https://github.com	https://github.com	Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode			1	254	bytecode			254
https://github.com	https://github.com	Incorrect Output	Type Problem	AST	Error Message	Incorrect Type System		1	247				247
https://github.com	https://github.com	Incorrect Output	Memory Issue	CodeGen	Value	Allocation	keyword: memory	1	243				243
https://github.com	https://github.com	Incorrect Output	Memory Issue	CodeGen	Value	Overwrite	keyword: memory	1	212				212
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	179	bytecode			179
https://github.com	https://github.com	Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	138				138
https://github.com	https://github.com	Crash	Incorrect Code Generation	CodeGen	Poor Error Message			1	137	bytecode			137
https://github.com	https://github.com	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	127				127
https://github.com	https://github.com	Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	116				116

Bugs	Fix	Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-triggered test program	Test Program Bug ID	Trigger Bug	Impact	Bug ID text
https://github	https://github	Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		CLT:--strict-assembly	1	106		106
https://github	https://github	Crash	Incorrect Optimization	Yul	Reject Valid Program		yul	1	93	yul	93
https://github	https://github	Incorrect Output	Type Problem	AST	Storage Location	Incorrect Type System		1	90		90
https://github	https://github	Error Omission	Type Problem	AST		Incorrect Type System		1	63		63
https://github	https://github	Crash	Incorrect Syntax Analysis	Lexer	Reject Valid Program	Incorrect Lexical Analysis		1	59		59
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	50		50
https://github	https://github	Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	28		28