Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigger	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Incorrect Output	FV Error	Formal Verification	SMT-LIB Script	Incorrect Model Checker Imp	1. CL 2. play with numerical value	1	14375			14375
Incorrect Output	Incorrect Syntax Analysis	CLI	Helper Message		1. CL	1	14259		Low Impa Low Effo	14259
Performance Issue	Incorrect Optimization	CodeGen		Redundant Yul Opt	*NO TEST PROGRAM*	0	14241		Medium Low Effe	14241
Incorrect Output	FV Error	Formal Verification	Warning Message	Incorrect Model Checker Imp	1. CL 2. play with numerical value	1	14211			14211
Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	1. language feature (memory, array, struct, pub	1	14182			14182
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bug	1	14181			14181
Error Omission	FV Error	Formal Verification		Incorrect Model Checker Imp	1. SMT enabler 2. play with numerical value 3. language feature (public)	1	14111			14111
Crash	Memory Issue	Yul	Reject Valid Program	Allocation Problem	*yul*	1	14037	yul		14037
Crash	Incorrect Syntax Analysis	Parser	**Poor Error Message**		1. invalid code	1	14016		Low Impa Low Effo	14016
Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference	int8	1	14001		Low Impa Low Effo	14001
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1.annotation (@custom:smtchecker abstract-fu	1	13945		Low Effo	13945
Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error message	Misleading Error Message	1. **metamorphic relation** 2. abstract contract	1	13824		Low Impa Low Effo	13824
Error Omission	Incorrect Exception Handling	Code Analyzer CodeGen		The original specification abo is not well-designed and is m	1. `immutable` keyword	1	13769		Medium Low Effe	13769
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	Scope	1. language feature (library, external) 3. **metamorphic relation**	1	13765		Low Impa Low Effo	13765
Error Omission	Incorrect Semantic Analysis	Code Analyzer		Scope	1. language feature (library) 2. **metamorphic relation**	1	13764		Medium Low Effe	13764
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1. SMT enabler 2. language feature (mapping)	1	13735	array		13735
Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program		1. annotation (@custom:smtchecker b; @custo 2. SMT enabler 3. language feature (internal)	1	13732			13732
Error Omission	Incorrect Syntax Analysis	Parser			1. invalid code 2. language feature (event)	1	13681		Low Impa Low Effo	13681
Incorrect Output	Incorrect Optimization	CodeGen	ByteCode		1. assembly	1	13680	yul	Low Impa Low Effo	13680
Incorrect Output	Incorrect Exception Handling	Interface	ByteCode	missing type checking	1. CL	1	13628			13628
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect Model Checker Imp	1. SMT enabler 2. language feature (library internal)	1	13477		Medium Low Effo	13477
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	1. language feature (struct delete) 2. SMT enabler	1	13432			13432
Crash	Incorrect Semantic Analysis	Formal Verification	Poor Error Message	missing type checking	1. invalid code 2. tuple	1	13366			13366
Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	keyword: memory	1	13266			13266
Crash	Memory Issue	CodeGen	**Reject Valid Program**	Access the slot of mapping v	yul: mstore	1	13259	yul		13259
Incorrect Output	Memory Issue	CodeGen	ByteCode	Memory Copy	dynamic array keyword: calldata	1	13249			13249
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	tuple	1	13208			13208
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	1. abi encoder 2. event 3. error	1	13101			13101
Error Omission	Incorrect Optimization	Yul			1. assembly	1	13039	yul		13039
Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Misleading Error Message	*NO TEST PROGRAM*	0	12998			12998
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	*NO TEST PROGRAM*	0	12973	member		12973
Crash	Incorrect Semantic Analysis	Interface	**Poor Error Message**	Incorrect Model Checker Imp	1. mapping 2. int256	1	12953	mapping		12953
Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode		1. event emit 2. **metamorphic relation**	1	12880	ABI		12880
Error Omission	Incorrect Code Generation	evmasm			1. assembly	1	12860	yul		12860
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	AST Visitor	1. function overload	1	12780			12780
Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error message	Poor Error Message	1. external 2. abi encoder	1	12776			12776
Incorrect Output	Incorrect Optimization	**evmasm Yul Codegen**	ByteCode		1. bytes 2. memory	0	12738			12738

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigg	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	incorrect type checking	1. memory 2. abi encoder	1	12718			12718
Error Omission	Incorrect Semantic Analysis	Code Analyzer		OOP	1. class inheritance	1	12615			12615
Incorrect Output	Memory Issue	CodeGen	Value(s) of Variable(s)	Memory Copy	yul: mstore	1	12600	yul		12600
Crash	Memory Issue	CodeGen	**Reject Valid Program**	Memory Copy	keyword: memory	1	12558			12558
Crash	Memory Issue	CodeGen	Reject Valid Program	Memory Copy	dynamic array	1	12546			12546
Incorrect Output	Incorrect Code Generation	CodeGen	Emitted Event		1. event emit 2. bytes	1	12535	IR		12535
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	Scope	1. override	1	12528			12528
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	1. use of undefined construct	1	12505			12505
Hang	Incorrect Optimization	evmasm			1. Large Contract 2. CL	1	12406			12406
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	Scope	1. class inheritance 2. immutable	1	12379			12379
Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Unnecessary Error Reporting	1. SMT enabler 2. library, tuple	1	12222			12222
Crash	Memory Issue	Code Analyzer	**Reject Valid Program**	storage size	large static array	1	12159			12159
Crash	Incorrect Semantic Analysis	Yul	**Reject Valid Program**	Scope	1. external, 2. assembly	1	12158	yul		12158
Incorrect Output	Incorrect Code Generation	CodeGen	Warning Message	No specification about codeg	*NO TEST PROGRAM*	0	12068	yul		12068
Crash	Incorrect Exception Handling	AST	**Poor Error Message**	Incorrect Error Reporting	1. typedef, mapping, library	1	12066			12066
Crash	Incorrect Yul Analysis	Yul	**Reject Valid Program**	Incorrect Source Location	yul annotation	1	12065	yul		12065
Error Omission	Incorrect Code Generation	CodeGen			1. modifier, external	1	12061	IR		12061
Crash	Type Problem	AST	Reject Valid Program		1. **metamorphic relation**	1	11955			11955
Crash	Memory Issue	CodeGen	**Reject Valid Program**	calldata	yul calldata	1	11929			11929
Incorrect Output	FV Error	Formal Verification	Warning Message	Incorrect Model Checker Imp	1. external, payable	1	11885			11885
Crash	Incorrect Exception Handling	**Error Handling**	**Reject Valid Program**	Incorrect Error Handling Implementation		1	11878	several files		11878
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	Scope	multiple import	1	11855	several files		11855
Incorrect Output	Incorrect Code Generation	Yul	Value(s) of Variable(s)		*NO TEST PROGRAM*	0	11736	IR		11736
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope	1. assembly 2. CL 3. name shadowing	1	11734	yul		11734
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect Model Checker Imp	library, internal	1	11710			11710
Incorrect Output	Incorrect Optimization	CLI	ByteCode	Incorrect Optimization for yul	yul	1	11708	yul		11708
Crash	Type Problem	CodeGen	**Reject Valid Program**	Incorrect Type Conversion	calldata, external, pure, bytes, memory	1	11677	conversion		11677
Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	1. **unchecked** 2. type()	1	11631			11631
Crash	Memory Issue	CodeGen	**Reject Valid Program**	Stack Pop Problem		1	11611			11611
Crash	Incorrect Exception Handling	Code Analyzer	**Poor Error Message**	Incorrect Error Type	1. CL 2. calldata	1	11610			11610
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	modifer, interface	1	11557	incorrect type combination		11557
Incorrect Output	FileSystem Issue	CLI	Metadata Output	CL reading	empty contract	1	11553			11553
Crash	FileSystem Issue	CLI	**Poor Error Message**		1. CL	1	11552			11552
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		big constant, bitwise negation	1	11526	AST->bytecode		11526
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**	The trivial implementation is	assembly	1	11524	yul		11524
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	Scope	library, external, internal	1	11522			11522
Incorrect Output	Incorrect Optimization	Parser	ByteCode	initialization of the optimizatic	*NO TEST PROGRAM*	0	11521			11521
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	virtual, override, abstract, modifier	1	11506			11506
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	control flow	external	1	11501			11501
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	control flow	keccak256, abi.encode	1	11497			11497
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	OOP	override modifier	1	11483			11483
Crash	Incorrect Semantic Analysis	AST CodeGen	**Reject Valid Program**	Scope	override, inheritance external	1	11445			11445
Incorrect Output	Incorrect Semantic Analysis	CodeGen	Value(s) of Variable(s)	Incorrect Source Location	event, emit, block	1	11440			11440
Crash	Incorrect Optimization	Code Analyzer	Reject Valid Program	Optimization Setting	*NO TEST PROGRAM*	0	11418			11418
Incorrect Output	Type Problem	AST	Error Message	Incorrect Type System	try-catch	1	11405			11405
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler calldata, bytes, external	1	11404	array slice		11404
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	Scope	mapping, storage, abstract	1	11356			11356

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigger	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	Incorrect Exception Handling	Code Analyzer	**Poor Error Message**	Incorrect Error Type	mapping, event	1	11353			11353
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	view, return	1	11341			11341
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	SMT enabler bytes, array	1	11336	array		11336
Crash	Incorrect Exception Handling	CodeGen	**Reject Valid Program**	Incorrect Error Reporting	external, library, using	1	11325			11325
Crash	FileSystem Issue	CLI	**Poor Error Message**	Compatibility Issue	CL	1	11233			11233
Error Omission	FV Error	Formal Verification		Incorrect Model Checker Imp	library, interface, require, assert	1	11213			11213
Crash	Doc Error	Parser Code Analyzer	Reject Valid Program			1	11194			11194
Incorrect Output	Incorrect Optimization	evmasm	Assembly Code		assembly CLI --optimize	1	11131	yul		11131
Crash	Incorrect Semantic Analysis	Code Analyzer AST	**Poor Error Message**	Circular Dependence	external, payable, receive() CLI --ir	1	11128			11128
Incorrect Output	Incorrect Yul Analysis	Yul	ByteCode	Incorrect Source Location		1	11068			11068
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ArraySlice `arr[beg:end]`	1	11064	array		11064
Crash	Incorrect Yul Analysis	LangUtil	**Poor Error Message**	Incorrect Source Location	empty Yul	1	11041	yul		11041
Crash	FileSystem Issue	CLI	Reject Valid Program		CL	1	11039	several files		11039
Error Omission	FV Error	Formal Verification		Incorrect SMT Encoding	SMT enabler bytes, internal, assert, require	1	11027	array		11027
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Function Call Graph	bytes, inheritance	1	11007			11007
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	.pop, [], SMT enabler	1	11005	array		11005
Crash	Memory Issue	CodeGen	Reject Valid Program	Allocation Problem	keyword: memory	1	11001			11001
Crash	Incorrect Exception Handling	Code Analyzer	**Poor Error Message**	Incorrect Error Type	abstract, public	1	10988			10988
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	SMT enabler, uint256	1	10985	member		10985
Crash	Incorrect Semantic Analysis	Yul	**Reject Valid Program**	missing type checking	assembly	1	10975	yul		10975
Crash	Incorrect Exception Handling	CodeGen	**Reject Valid Program**	Too Restrict Error Reporting	external, pure	1	10958	several files		10958
Crash	Type Problem	AST	**Reject Valid Program**	Incorrect Type System	constant, import	1	10956	several files		10956
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		bytes, pure, modifier	1	10947	IR		10947
Crash	Incorrect Exception Handling	CodeGen	**Poor Error Message**	Incorrect Error Reporting	fixed	1	10940			10940
Crash	Incorrect Semantic Analysis	Formal Verification	**Reject Valid Program**	OOP	super	1	10926			10926
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		(address(1).call(""))	1	10920	IR		10920
Crash	Memory Issue	CodeGen	Reject Valid Program	Allocation Problem		1	10918			10918
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		delete	1	10917	IR		10917
Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	constructor, modifier	1	10916			10916
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bytes, push	1	10914	array		10914
Crash	Incorrect Semantic Analysis	Code Analyzer AST	Poor Error Message	OOP	override, calldata, inheritance	1	10900			10900
Crash	Incorrect Semantic Analysis	CodeGen	Poor Error Message	CLI syntax	fixed	1	10895			10895
Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting	event	1	10892			10892
Crash	Incorrect Exception Handling	CodeGen	**Reject Valid Program**	Incorrect Error Reporting	selector	1	10891			10891
Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Unnecessary Error Reporting	uint[] calldata	1	10889			10889
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	OOP	receive()	1	10882			10882
Crash	Doc Error	Parser	**Reject Valid Program**		comment	1	10881			10881
Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect Model Checker Imp	ternary	1	10876			10876
Crash	Memory Issue	Code Analyzer	**Reject Valid Program**	Null Pointer Dereference		1	10874			10874
Crash	Type Problem	Code Analyzer CodeGen AST	**Reject Valid Program**	Incorrect Type System	storage array, pop	1	10870	conversion		10870
Crash	Incorrect Semantic Analysis	Formal Verification	**Reject Valid Program**	Scope	SMT enabler	1	10831			10831
Error Omission	Incorrect Semantic Analysis	Code Analyzer		Intialization	storage	1	10821			10821
Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect SMT Encoding	SMT enabler	1	10796			10796
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler	1	10793	array		10793
Hang	Incorrect Semantic Analysis	Code Analyzer		missing type checking	cyclical dependency	1	10732			10732
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ABI encoder assembly	1	10730	yul		10730
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect Model Checker Imp	SMT enabler	1	10712			10712
Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect SMT Encoding	SMT enabler	1	10693			10693
Incorrect Output	Memory Issue	CodeGen	function returned value	storage -> memory	keyword: memory dynamic array	1	10689			10689

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigge	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Error Omission	FV Error	Formal Verification		Incorrect Model Checker Imp	SMT enabler	1	10671			10671
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		function array	1	10667	AST->bytecode		10667
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	try catch, SMT enabler, while	1	10666			10666
Crash	Incorrect Semantic Analysis	Formal Verification	Reject Valid Program	Scope	virtual modifier, member access, SMT enabler	1	10660			10660
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, push()	1	10657	array		10657
Crash	Incorrect Syntax Analysis	CodeGen	**Reject Valid Program**		pragma solidity	1	10654			10654
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	missing type checking	abstract, virtual modifer, inheritance	1	10620			10620
Crash	Memory Issue	Yul	**Reject Valid Program**	Out-of-bounds Read	keyword: memory	1	10609	yul		10609
Error Omission	FV Error	Formal Verification		Incorrect Model Checker Imp	SMT enabler, interface	1	10576			10576
Crash	FV Error	Formal Verification	Segfault	Incorrect SMT Encoding	SMT enabler, tuple, internal function outside of	1	10526	array, member		10526
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	array push assignment	1	10525	array		10525
Crash	Incorrect Semantic Analysis	Formal Verification	**Reject Valid Program**	Scope	library, tuple, using for	1	10524			10524
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	abstract modifier	1	10523			10523
Crash	Incorrect Exception Handling	Formal Verification	Reject Valid Program	Incorrect Error Reporting	>>=(right shift)	1	10522			10522
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	Recursive struct definition	1	10517			10517
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	strucy array	1	10516			10516
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	OOP	(super), library	1	10485			10485
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	bytes	1	10439	array		10439
Crash	Memory Issue	Formal Verification	Segfault	Out-of-bounds Read	keyword: memory	1	10436			10436
Crash	Memory Issue	Code Analyzer	Segfault		@return, modifier	1	10433			10433
Incorrect Output	FV Error	Formal Verification	SMT analysis result	Incorrect Model Checker Imp	SMT enabler	1	10306			10306
Incorrect Output	Others	evmasm	ByteCode	Linking Error	CL: --libraries **Metamorphic Relation**	1	10298			10298
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	SMT enabler, bytes memory, &=	1	10252	array		10252
Incorrect Output	Incorrect Semantic Analysis	Formal Verification	SMT analysis result	Scope	modifiers with branches	1	10200			10200
Crash	Memory Issue	CodeGen	**Reject Valid Program**	Calldata	keyword: memory	1	10186			10186
Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode		revert	1	10170	AST->bytecode		10170
Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode			0	10156	ABI		10156
Error Omission	Incorrect Syntax Analysis	Parser			// SPDX-License-Identifier	1	10145			10145
Crash	Incorrect Exception Handling	Code Analyzer	**Reject Valid Program**	Incorrect Error Type	CLI: --evm-version	1	10113			10113
Crash	Incorrect Exception Handling	Formal Verification	**Reject Valid Program**	Incorrect Error Reporting	fixed >>>	1	10106			10106
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		int[][5], calldata	1	10105	IR		10105
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	control flow		0	10084			10084
Crash	Doc Error	CLI	**Reject Valid Program**		struct, mapping, require	1	10059			10059
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	A.push() = B.push()	1	10058	array		10058
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	OOP	import pragma experimental ABIEncoderV2;	1	9970	several files		9970
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		modifier, import, pragma experimental ABIEnc	1	9969	several files		9969
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	incorrect type checking	mapping	1	9957			9957
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	read and write	memory	1	9952			9952
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking	struct with mapping, constant	1	9951			9951
Crash	Incorrect Exception Handling	CodeGen	**Poor Error Message**	Unnecessary Error Reporting	library, inheritance	1	9948			9948
Crash	Doc Error	Code Analyzer	**Reject Valid Program**		comment	1	9947			9947
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	lack type info extraction		1	9890			9890
Error Omission	Type Problem	AST		Incorrect Type Conversion	address	1	9857			9857
Crash	Incorrect Code Generation	CodeGen	Poor Error Message		CLI: --ir	1	9855	IR		9855
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		0	9851			9851
Incorrect Output	Memory Issue	CodeGen	Error Message	Memory Cleanup	keyword: memory	1	9832			9832
Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion	calldata	1	9821			9821
Crash	Type Problem	AST	**Reject Valid Program**	Incorrect Type System	struct with mapping	1	9817			9817
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	9815			9815
Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	OOP	function overriding	1	9752			9752
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	virtual modifier	1	9745			9745
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	SMT enabler, member access	1	9742	member		9742
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	ternary	1	9741			9741
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler, ~1	1	9699			9699
Crash	Doc Error	Code Analyzer	Poor Error Message		@inheritdoc	1	9669			9669

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigg	as Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	import	1	9667	several files		9667
Crash	Incorrect Exception Handling	Code Analyzer	Reject Valid Program	Poor Error Message	function array	1	9666			9666
Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding	tuple	1	9659	tuple		9659
Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding	tuple	1	9631	tuple		9631
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		constructor	1	9629			9629
Crash	Incorrect Semantic Analysis	CodeGen	Reject Valid Program	Scope	fallback(), assembly	1	9618	yul		9618
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking		0	9611			9611
Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion	super	1	9596			9596
Crash	FV Error	Formal Verification	**Reject Valid Program**	Incorrect SMT Encoding	mapping	1	9595	mapping		9595
Incorrect Output	Incorrect Optimization	Yul	ByteCode			1	9573	yul		9573
Crash	Doc Error	Code Analyzer	Poor Error Message			1	9560			9560
Error Omission	Incorrect Optimization	evmasm			assembly	1	9558	yul		9558
Crash	Incorrect Semantic Analysis	AST	Poor Error Message	Scope	constructor, internal	1	9557			9557
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	read and write about immutable	immutable	1	9550			9550
Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	signed exponent	1	9548			9548
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	9519	array		9519
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	constructor	1	9509			9509
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	array	1	9506	array		9506
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	index access of an array	1	9505	array, member		9505
Crash	Incorrect Yul Analysis	Yul	Reject Valid Program		CLI: yulrun --input-file assembly	1	9499	yul		9499
Crash	Incorrect Optimization	Yul	Reject Valid Program		CLI: --strict-assembly --optimize assembly	1	9472	yul		9472
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	9443			9443
Crash	Incorrect Semantic Analysis	Code Analyzer	Segfault	AST Visitor	CLI: --bin	1	9434			9434
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	address	1	9425			9425
Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	large static array	1	9404			9404
Error Omission	Type Problem	AST		Incorrect Type System	ternary with functions	1	9381			9381
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	9296			9296
Crash	Incorrect Semantic Analysis	Code Analyzer	**Poor Error Message**	missing type checking		1	9270			9270
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	9233	tuple		9233
Crash	Incorrect Semantic Analysis	Code Analyzer	**Reject Valid Program**	Scope	struct, enum	1	9231			9231
Crash	Incorrect Semantic Analysis	CodeGen	**Reject Valid Program**	Scope	library, import	1	9229			9229
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	using for	1	9217			9217
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	immutable	1	9207			9207
Incorrect Output	Incorrect Code Generation	Yul	wasm code		yul	1	9205	yul		9205
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	memory struct	1	9174			9174
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	calldata, external	1	9134			9134
Incorrect Output	Incorrect Semantic Analysis	evmasm	ByteCode	Incorrect Source Location		1	9133			9133
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	fixed type, bitwise operator	1	9087	tuple		9087
Error Omission	Incorrect Semantic Analysis	Code Analyzer		OOP		1	9065			9065
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	9028			9028
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	9021	array		9021
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	try catch	1	9016	array		9016
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	inline arrays of some types	1	9004			9004
Crash	Type Problem	AST CodeGen Code Gen	Reject Valid Program	Incorrect Type Conversion		1	8991			8991
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8971	tuple		8971
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8963	yul		8963
Crash	Incorrect Code Generation	Yul	Reject Valid Program		yul	1	8960	yul		8960
Crash	Memory Issue	Formal Verification	Reject Valid Program	Out-of-bounds Read		1	8947			8947
Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	large exponent	1	8929			8929
Crash	Memory Issue	Code Analyzer	Poor Error Message	stack array is too large	out-of-bound array access	1	8923			8923
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	incorrect type checking	assembly	1	8881	yul		8881
Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Poor Error Message		1	8875			8875
Incorrect Output	Doc Error	Parser	userdoc		--userdoc	1	8820			8820

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigg	as Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8817			8817
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting	tuple	1	8760			8760
Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference		1	8738			8738
Crash	Incorrect Semantic Analysis	Interface	Reject Valid Program		internal constructor	1	8712			8712
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	tuple	1	8711			8711
Crash	Memory Issue	Formal Verification	Reject Valid Program	Null Pointer Dereference		1	8674			8674
Incorrect Output	Incorrect Code Generation	CodeGen	IR		tuple	1	8671	IR		8671
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	8667	array slice		8667
Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting		1	8656			8656
Incorrect Output	Doc Error	Interface	userdoc		comment	1	8634			8634
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	8623			8623
Crash	Type Problem	AST	Poor Error Message	Incorrect Type System		1	8590			8590
Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Incorrect Model Checker Implementation		1	8577			8577
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	size	tuple	1	8450			8450
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message	missing type checking	abstract contract, inheritance	1	8434			8434
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	8419			8419
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	fixed, constant, assembly	1	8412	yul		8412
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	8407	tuple		8407
Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Incorrect Error Reporting		1	8406			8406
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	assembly	1	8386	yul		8386
Crash	Incorrect Syntax Analysis	SolUtil	Reject Valid Program	Format Issue	sha256	1	8368			8368
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			0	8308	IR		8308
Incorrect Output	Incorrect Code Generation	CodeGen	IR		ternary	1	8302	IR		8302
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Reporting Location		1	8296			8296
Crash	Incorrect Semantic Analysis	Code Analyzer AST	Poor Error Message		uint256 array	1	8286			8286
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Incorrect Error Type	call a uncallable var	1	8283			8283
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	assignment to mapping	1	8278			8278
Crash	Incorrect Optimization	evmasm	Reject Valid Program		CLI: solfuzzer duplicate code (true ? {previously-defined v1} :	1	8269			8269
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	recursive type declaration	1	8266			8266
Crash	Memory Issue	Code Analyzer AST	Poor Error Message	copy	yul	1	8265	yul		8265
Crash	Incorrect Code Generation	CodeGen	**Reject Valid Program**		dynamic-sized array, calldata, external	1	8210	bytecode		8210
Incorrect Output	Incorrect Code Generation	evmasm	Assembly			1	8171	evmasm		8171
Incorrect Output	Incorrect Optimization	Yul	IR		yul	1	8072	yul		8072
Incorrect Output	Incorrect Optimization	Yul	IR		yul	1	7847	yul		7847
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		CLI: --evm-version istanbul chainid	1	7711			7711
Crash	Incorrect Code Generation	Code Analyzer	**Reject Valid Program**	OOP		0	7627	IR		7627
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	pass library as argument member access of a library	1	7625			7625
Incorrect Output	Others	evmasm	IR	Uppercase	yul	1	7567	yul		7567
Crash	Type Problem	AST	Poor Error Message	Incorrect Type Conversion		0	7558			7558
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message		modifier	1	7550			7550
Crash	Incorrect Exception Handling	AST	Reject Valid Program	Incorrect Error Reporting	array index	1	7549			7549
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking	identifier collision	1	7488			7488
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	arrays of recursive structs	1	7448			7448
Crash	Incorrect Optimization	Yul	Reject Valid Program		yul	1	7416	yul		7416
Incorrect Output	Incorrect Optimization	evmasm	Assembly		yul	1	7411	yul		7411
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	push to a storage array of mapping	1	7410			7410
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		pop a dynamic storage array of mapping	1	7378	bytecode		7378
Crash	Incorrect Optimization	Yul	Reject Valid Program		yul CLI: --strict-assembly --optimize	1	7356	yul		7356
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	overriding function	1	7314			7314
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	SMT enabler array index	1	7305			7305
Crash	Memory Issue	Code Analyzer	Segfault	Null Pointer Dereference	yul	1	7296	yul		7296

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigge	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Warning Message	Scope	import as	1	7273			7273
Incorrect Output	Others	LangUtil	Warning Message	Format Issue		0	7185			7185
Incorrect Output	Incorrect Semantic Analysis	Formal Verification	address	Incorrect Source Location	this	1	7168			7168
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	branch, tuple, inline function	1	7164	tuple		7164
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	>>=	1	7163			7163
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	inline function from other sources	1	7162	several files		7162
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	uncalled transfer and send function	1	7155			7155
Incorrect Output	Doc Error	Parser	userdoc		CLI: --devdoc comment	1	7150			7150
Incorrect Output	Incorrect Code Generation	CodeGen	bytecode		calldata, memory	1	7114	yul		7114
Incorrect Output	Incorrect Optimization	Yul	pre-optimization trace		yul CLI: yulrun --input-file	1	7098	yul		7098
Crash	Memory Issue	Code Analyzer	Poor Error Message		yul	1	7060	yul		7060
Error Omission	Incorrect Semantic Analysis	Code Analyzer			pure	1	7035			7035
Incorrect Output	Incorrect Code Generation	CodeGen	returned value		array initialization	1	6995	bytecode		6995
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System	staticcall.gas	1	6901			6901
Crash	Incorrect Code Generation	Yul	Reject Valid Program		yul CLI: --strict-assembly	1	6879	yul		6879
Performance Issue	Incorrect Optimization	Yul			yul	1	6866	yul		6866
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding	tuple	1	6864			6864
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		struct containing an array of mapping	1	6783	bytecode		6783
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	abi.encode	1	6759			6759
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		constructor args with struct	1	6754	bytecode		6754
Performance Issue	Incorrect Optimization	Yul			yul	1	6731	yul		6731
Error Omission	Incorrect Semantic Analysis	Code Analyzer		Scope	identifiers named this/super	1	6617			6617
Performance Issue	Incorrect Optimization	Yul			yul	1	6590	yul		6590
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	inheritance, type casting	1	6575			6575
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Imp	type casting	1	6574			6574
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		0	6562			6562
Performance Issue	Incorrect Optimization	Yul			yul	1	6528	yul		6528
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program		function assignment	1	6525	bytecode		6525
Crash	Incorrect Yul Analysis	Yul	Reject Valid Program		yul	1	6510	yul		6510
Crash	Incorrect Exception Handling	CodeGen	Reject Valid Program	Unnecessary Error Reporting	abi.encode	1	6509			6509
Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program		CLI: --ast assembly	1	6505	yul		6505
Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	6497			6497
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking	using for, library	1	6451			6451
Incorrect Output	Type Problem	AST	Emitted Event	Incorrect Type System	emit event	1	6435			6435
Incorrect Output	Incorrect Optimization	evmasm	Assembly		yul	1	6246	yul		6246
Crash	Type Problem	AST	Poor Error Message	Incorrect Type System	internal array of functions	1	6215			6215
Crash	Incorrect Syntax Analysis	Parser	Poor Error Message		comment	1	6124			6124
Crash	Memory Issue	Code Analyzer	Poor Error Message	Null Pointer Dereference	yul	1	6109	yul		6109
Crash	Incorrect Exception Handling	Yul	Poor Error Message	Poor Error Message	assembly	1	6103	yul		6103
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	fixed size array state variable	1	5875			5875
Crash	Incorrect Syntax Analysis	Parser	Poor Error Message		import ""	1	5866			5866
Error Omission	Incorrect Yul Analysis	Yul		case	yul	1	5792	yul		5792
Crash	Incorrect Syntax Analysis	LangUtil	Reject Valid Program	Incorrect Source Location		1	5730			5730
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking		1	5722			5722
Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Unimplemented		1	5721			5721
Incorrect Output	Incorrect Optimization	Yul	IR			0	5706			5706
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	getter function overriding	1	5556			5556
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	fixed-point	1	5551			5551
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking	Nested structs that are part of a mapping	1	5520			5520
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	memory store with mappings	1	5518			5518
Crash	Memory Issue	CLI	Segfault	Null Pointer Dereference	keyword: calldata	1	5501			5501
Crash	Incorrect Optimization	Yul	Reject Valid Program		yul	1	5465	yul		5465
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	incorrect type checking	event and constructor with the same name	1	5459			5459

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

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigger	Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	3796			3796
Incorrect Output	Incorrect Optimization	Interface	Gas			1	3779			3779
Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	3770			3770
Hang	Incorrect Optimization	AST		number limit		1	3759			3759
Crash	Incorrect Exception Handling	AST	Poor Error Message	Poor Error Message		1	3738			3738
Crash	Doc Error	Parser	Reject Valid Program			1	3728			3728
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Lack Warning	yul	1	3547	yul		3547
Error Omission	Incorrect Semantic Analysis	Code Analyzer		static analysis		0	3522			3522
Incorrect Output	Incorrect Code Generation	CodeGen	event			1	3493	bytecode		3493
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	3414			3414
Incorrect Output	Incorrect Syntax Analysis	Interface	JSON output	Incorrect Source Location		1	3409			3409
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	3325			3325
Performance Issue	Incorrect Semantic Analysis	Code Analyzer	RAM blowup	recursion		1	3323			3323
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message			1	3307			3307
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program	ABI		1	3293	bytecode		3293
Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	3291			3291
Incorrect Output	Incorrect Code Generation	CodeGen	The runtime code			1	3271	bytecode		3271
Crash	Incorrect Code Generation	evmasm	Reject Valid Program			1	3085	evmasm		3085
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	ABI encoder		1	3069			3069
Incorrect Output	Memory Issue	CodeGen		Memory Allocation	keyword: memory dynamic array	1	3064			3064
Crash	Incorrect Syntax Analysis	Parser	Poor Error Message			1	3039			3039
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	3019			3019
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect Model Checker Implementation		1	3001			3001
Incorrect Output	Incorrect Syntax Analysis	Parser	Source Location			1	2984			2984
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	2977	bytecode		2977
Crash	Type Problem	AST CodeGen Code Analyzer	Poor Error Message	Incorrect Type System		1	2969			2969
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	Error Message			1	2965			2965
Incorrect Output	Incorrect Exception Handling	Code Analyzer	Error Message	Incorrect Error Type	yul	1	2916	yul		2916
Crash	Memory Issue	Code Analyzer	Reject Valid Program	array length	large array, memory access	1	2915			2915
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message			1	2913			2913
Crash	Incorrect Code Generation	CodeGen	Poor Error Message			1	2912	bytecode		2912
Incorrect Output	Type Problem	AST	JSON	Incorrect Type System		1	2804			2804
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	ABI encoder		1	2764			2764
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	2752			2752
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	2739			2739
Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	2733			2733
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		0	2676			2676
Crash	Type Problem	AST	Reject Valid Program			1	2655			2655
Incorrect Output	Incorrect Syntax Analysis	CLI	Warnning Message		CLI: --allow-paths	1	2147			2147
Crash	Incorrect Semantic Analysis	Code Analyzer				1	2108			2108
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	2104	bytecode		2104
Crash	Incorrect Exception Handling	Code Analyzer	Poor Error Message	Poor Error Message		1	1799			1799
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	scope		1	1769			1769
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	returned value	missing type checking		1	1731			1731
Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	1724			1724
Error Omission	Memory Issue	AST		Too larger calldata array	large array	1	1721			1721
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1720			1720
Crash	Incorrect Syntax Analysis	CLI	Reject Valid Program	long linker commandline argument		1	1717			1717
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking		1	1709			1709
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	1696			1696
Incorrect Output	FileSystem Issue	CLI	File			0	1652			1652
Crash	FileSystem Issue	CLI			CLI	1	1647			1647
Incorrect Output	Incorrect Code Generation	CodeGen	Bytecode			1	1469	bytecode		1469
Hang	Incorrect Optimization	evmasm				1	1466			1466

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigge	as Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Error Omission	Incorrect Semantic Analysis	evmasm		scope		1	1457			1457
Crash	Incorrect Semantic Analysis	Code Analyzer	Segfault		self-referential constant	1	1436			1436
Incorrect Output	Incorrect Syntax Analysis	Parser	Bytecode			1	1433			1433
Incorrect Output	Incorrect Optimization	evmasm	Value of variable			1	1416			1416
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type Conversion		1	1415			1415
Incorrect Output	Memory Issue	evmasm	Warning Message	Stack Size	Yul	1	1368	yul		1368
Incorrect Output	Type Problem	AST	AST	Incorrect Type Information		1	1364			1364
Error Omission	Incorrect Semantic Analysis	AST CodeGen Parser		value range		1	1343			1343
Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	1286			1286
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking		1	1258			1258
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message	missing type checking		1	1250			1250
Error Omission	Type Problem	AST		Incorrect Type System		1	1246			1246
Crash	Memory Issue	AST	Reject Valid Program	Allocation		1	1242			1242
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	1192			1192
Crash	FV Error	Formal Verification	Poor Error Message	Incorrect SMT Encoding		1	1177			1177
Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	1151			1151
Crash	Memory Issue	AST	Reject Valid Program	Null Pointer Dereference	dynamic array	1	1150			1150
Crash	Incorrect Exception Handling	evmasm	Poor Error Message	Too late Error Reporting		1	1145			1145
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	missing type checking	yul	1	1144	yul		1144
Crash	Incorrect Syntax Analysis	evmasm	Reject Valid Program			1	1135			1135
Crash	Incorrect Syntax Analysis	evmasm	Reject Valid Program			1	1134			1134
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	1131			1131
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	1116	bytecode		1116
Crash	Incorrect Exception Handling	AST	Reject Valid Program	Incorrect Error Type		1	1099			1099
Incorrect Output	Incorrect Code Generation	CodeGen	Gas			1	1092	bytecode		1092
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	1083	bytecode		1083
Incorrect Output	Incorrect Code Generation	CodeGen				0	1075	bytecode		1075
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1040			1040
Error Omission	Incorrect Semantic Analysis	Code Analyzer		missing type checking		1	1017			1017
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	988	bytecode		988
Crash	Incorrect Exception Handling	CodeGen	Poor Error Message	Lack Checking	sha3	1	981			981
Incorrect Output	Incorrect Semantic Analysis	Code Analyzer	output	missing type checking		1	976			976
Crash	Incorrect Exception Handling	CLI		Lack Checking		1	970			970
Crash	Incorrect Syntax Analysis	AST	Reject Valid Program	AST2Converter error		1	922			922
Incorrect Output	Incorrect Code Generation	AST	AST JSON			1	853	JSON		853
Crash	Incorrect Code Generation	AST	Segfault			1	742	JSON		742
Crash	Incorrect Code Generation	CodeGen	Segfault			1	736	bytecode		736
Crash	Incorrect Semantic Analysis	CLI	Reject Valid Program	Scope	CLI	1	733			733
Crash	FileSystem Issue	CLI	Reject Valid Program	CLI: --ast		1	702			702
Incorrect Output	Incorrect Optimization	evmasm	Value of variable			1	692			692
Crash	Others	CLI	Reject Valid Program			1	674			674
Crash	FileSystem Issue	CLI	Reject Valid Program			1	651			651
Error Omission	Incorrect Semantic Analysis	Code Analyzer				1	647			647
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	621			621
Incorrect Output	Incorrect Code Generation	CodeGen	asm			1	590	bytecode		590
Incorrect Output	Incorrect Code Generation	evmasm	asm			1	564	evmasm		564
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	561			561
Crash	Incorrect Semantic Analysis	AST	Reject Valid Program	Scope		1	549			549
Error Omission	Incorrect Syntax Analysis	Parser				1	535			535
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type Conversion		1	530			530
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	526			526
Incorrect Output	Type Problem	Interface	JSON	Incorrect Type System		1	489			489
Incorrect Output	Incorrect Code Generation	CodeGen	Value of variable			0	485	bytecode		485
Incorrect Output	Incorrect Code Generation	CodeGen	Gas			1	484	bytecode		484
Incorrect Output	Incorrect Syntax Analysis	evmasm	Error Message		yul	1	478	yul		478

Symptom	Root Cause	Component	Explanation - Symptom	Explanation - Root Cause	What factors are contained in the bug-trigger	as Test Program	Bug ID	Trigger Bug	Impact	Bug ID text
Crash	Incorrect Syntax Analysis	evmasm				1	472			472
Crash	Memory Issue	Interface	Reject Valid Program	Null Pointer Dereference	yul	1	466	yul		466
Crash	Type Problem	CodeGen	Reject Valid Program	Incorrect Type Conversion		1	446			446
Incorrect Output	Incorrect Syntax Analysis	Parser	Returned Value	Incorrect Lexical Analysis		0	428			428
Incorrect Output	Incorrect Exception Handling	CodeGen	Error Message	Poor Error Message		0	396			396
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	352			352
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program			1	340			340
Crash	FV Error	Formal Verification	Reject Valid Program	Incorrect SMT Encoding		1	339			339
Error Omission	Incorrect Semantic Analysis	AST		Scope		1	280			280
Incorrect Output	Incorrect Code Generation	CodeGen	ByteCode			1	254	bytecode		254
Incorrect Output	Type Problem	AST	Error Message	Incorrect Type System		1	247			247
Incorrect Output	Memory Issue	CodeGen	Value	Allocation	keyword: memory	1	243			243
Incorrect Output	Memory Issue	CodeGen	Value	Overwrite	keyword: memory	1	212			212
Crash	Incorrect Code Generation	CodeGen	Reject Valid Program			1	179	bytecode		179
Crash	Incorrect Syntax Analysis	Parser	Reject Valid Program			1	138			138
Crash	Incorrect Code Generation	CodeGen	Poor Error Message			1	137	bytecode		137
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	127			127
Crash	Incorrect Semantic Analysis	Code Analyzer	Reject Valid Program	Scope		1	116			116
Crash	Incorrect Semantic Analysis	Code Analyzer	Poor Error Message			1	106			106
Crash	Incorrect Optimization	Yul	Reject Valid Program		CLI:--strict-assembly yul	1	93	yul		93
Incorrect Output	Type Problem	AST	Storage Location	Incorrect Type System		1	90			90
Error Omission	Type Problem	AST		Incorrect Type System		1	63			63
Crash	Incorrect Syntax Analysis	Lexer	Reject Valid Program	Incorrect Lexical Analysis		1	59			59
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	50			50
Crash	Type Problem	AST	Reject Valid Program	Incorrect Type System		1	28			28