

Results from the Compiler Construction Competition

IMADA

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Public Programs

Program	Group				
	1	2	3	4	5
AbsTest					C_O
ArrayIndex					C_O
Assoc					C_O
ErrOutOfBounds1			R_E		C_O
ErrOutOfBounds2			R_E		C_O
Factorial			R_O		C_O
Function					C_O
IfThen					C_O
Knapsack					C_O
WhileDue					C_O
SimpleRecord					C_O
StaticLink					C_O

Other Programs

Program	Group				
	1	2	3	4	5
AbsoluteValue	C_E	C_E	C_E	C_E	C_O
ArrayComparisonsA	C_E				C_O
ArrayComparisonsB	C_S		C_S		C_O
ArrayOfOwnType		C_E	C_S		C_O
ArrayOfRecords	C_S		C_S		C_O
ArrayLength	C_E		C_O		C_O
BinarySearchTree	C_E		C_E		C_O
Comments			C_S		C_O
ErrAssignToType			C_E		C_O
ErrFuncParamsInvalidType			C_E		C_O
ErrFuncParamsTooFew			C_E		C_O
ErrFuncParamsTooMany			C_E		C_O
ErrInvalidToken			C_E		C_O
ErrRuntimeDiv0			R_S		C_O
ErrRuntimeNegArraySize			R_E		C_O
ErrRuntimeNullPointer	R_E		C_O	R_E	C_O
ErrRuntimeOutOfMem	R_E	R_E	R_E	R_E	C_O
ErrTypeLoop			C_E	C_E	C_O
ErrUnmatchedBeginComment		C_E	C_E		C_O
FuncCallAsParamA					C_O
FuncCallAsParamB			R_S		C_O
FuncModifyingParams					C_O
FuncParamsEvalOrder	R_O		R_O		C_O
FuncRedefinedInItself	C_E		C_E		C_O
FuncRedefinedReturnType				C_E	C_O
FuncRedefinedType				C_E	C_O
FuncReturnRecord					C_O
LargeExpTreeA					C_O
LargeExpTreeB					C_O
LargeExpTreeC					C_O
MultiDimArray	R_O		C_O		C_O
MultipleTypecheckPassesA				C_E	C_O

MultipleTypecheckPassesB			C_E		C_O
MultipleTypecheckPassesC					C_O
NullCorrect					C_O
NullWrong	C_E		C_E		C_O
RecordComparisonsA	C_S		C_O		C_O
RecordComparisonsB	C_E		C_S		C_O
RecordWithArrays	R_E				C_O
Recursion					C_O
ReturnInMainScope	C_E		C_E		C_O
ShortCircuitAND	R_T	R_T	R_T	C_E	C_O
ShortCircuitOR	R_T	R_T	R_T	C_E	C_O
StaticLinkA					C_O
StaticLinkB			R_O		C_O
Compile-time problems	11	3	22	6	45
Run-time problems	7	3	8	2	0
Total problems (out of 45 tests)	18	6	30	8	45

Legend

Compile-time problems:

C_T : Compiler does not terminate.

C_E : Compiler gives no or incorrect error when an error during compilation was expected, or compiler gives an error when no error during compilation was expected.

C_S : Compiler gives Segmentation fault or Floating exception.

C_O : The produced output cannot be assembled.

Run-time problems:

R_T : The compiled program does not terminate.

R_E : The compiled program gives no or incorrect runtime error when a runtime error was expected, or the compiled program gives a runtime error when no runtime error was expected.

R_S : The compiled program gives Segmentation fault or Floating exception.

R_O : The compiled program produces incorrect output.

R_X : The compiled program behaves in an unexpected fashion.

Time Trial on Knapsack

Compilation done using the -x switch. All tests performed on julia, each program run 3 times

Group	First	Second	Third	Average
1	1m20.505s	1m20.325s	1m20.453s	1m20.428s
2	0m28.678s	0m28.698s	0m28.702s	0m28.692s
3	1m2.396s	1m2.024s	1m1.032s	1m1.817
4	0m27.922s	0m27.838s	0m28.066s	0m27.942s
5	—	—	—	—

Time for gcc: 23.32s