Symbol Table - $LPSolver_st$

December 18, 2021

${\bf Scope:} \ \ {\it global}$								
Id	type	precision	Dtype	ndim	Attributes	ref		
testLPSolver	Main					<ast.Main object at 0 x14b57f4d2fd0 $>$		
ProbabilityDistribution	Module					<ast.Module object at $0x14b57f2e7250>$		
ProbabilityGeneration	Module					<ast.Module object at $0x14b57f2e7450>$		
LPPGeneration	Module					<ast.Module object at 0 x14b57f2bcb10 $>$		
LinearProblemSolver	Module					<ast.Module object at 0 x14b57f3b9810 $>$		
Algorithm	Module					<ast.Module object at 0 x14b57f3a0990 $>$		
Statistics	Module					<ast.Module object at 0 x14b57f3b4d90 $>$		
HistogramPlot	Module					<ast.Module object at 0 x14b57f3ea390 $>$		
Postprocessor	Module					<ast.Module object at 0 x14b57f406410 $>$		
LPTools	Module					<ast.Module object at 0 x14b57f3f4610 $>$		
LAOperators	Module					<ast.Module object at 0 x14b57f3ff890 $>$		
LAPACKOperators	Module					<ast.Module object at $0x14b57f1ec290>$		
Augment	Module					<ast.Module object at 0 x14b57f1f37d0 $>$		
GeoGebra	Module					<ast.Module object at 0 x14b57f209550 $>$		

		Scope: testLPSolver - Main				
Id	type	precision	Dtype	ndim	Attributes	ref

Scope: Probability Distribution - Module							
Id	type	precision	Dtype	ndim	Attributes	ref	
UniformDist	Function				result(u)	<ast.Function object at $0x14b57f3ac050>$	
NormalDist	Function				result(n)	<ast.Function object at $0x14b57f2bc310>$	

	S	Scope:	Uniform.	Dist - Fr	unction	
Id	type	precision	Dtype	ndim	Attributes	ref
seed	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f2e7cd0></ast.declaration>
IA	Scalar	8	integer		['parameter']	<ast.declaration object<br="">at 0x14b57f2e7610></ast.declaration>
IM	Scalar	8	integer		['parameter']	<ast.declaration object<br="">at 0x14b57f2e7610></ast.declaration>
IQ	Scalar	8	integer		['parameter']	<ast.declaration object<br="">at 0x14b57f2e7610></ast.declaration>
IR	Scalar	8	integer		['parameter']	<ast.declaration object<br="">at 0x14b57f2e7610></ast.declaration>
am	Scalar	16	real		['save']	<ast.declaration object<br="">at 0x14b57f2e7390></ast.declaration>
ix	Scalar	8	integer		['save']	<ast.declaration object<br="">at 0x14b57f3ac0d0></ast.declaration>

iy	Scalar	8	integer	['save']	<ast.declaration object<br="">at 0x14b57f3ac0d0></ast.declaration>
k	Scalar	8	integer	['save']	<ast.declaration object<br="">at 0x14b57f3ac0d0></ast.declaration>
u	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f2e7110></ast.declaration>

Id	type	precision	Dtype	ndim	Attributes	ref
seed	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3aced0></ast.declaration>
PI	Scalar	16	real		['parameter']	<ast.declaration object<br="">at 0x14b57f3ac690></ast.declaration>
u1	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3ac950></ast.declaration>
u2	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3ac950></ast.declaration>
n	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3acad0></ast.declaration>

${f Scope:} \ \ Probability Generation - {f Module}$							
Id	ref						
ProbVecGen	Subroutine					<ast.subroutine 0x14b57f3ad050="" at="" object=""></ast.subroutine>	
ProbMatGen	Subroutine					<ast.subroutine 0x14b57f3adb50="" at="" object=""></ast.subroutine>	

	So	cope:	Prob Vec G	en - Sul	oroutine	
Id	type	precision	Dtype	ndim	Attributes	ref
V	Array	16	real	1		$<\!\!\mathrm{ast.Declaration}\mathrm{object}\\ \mathrm{at}\;0\mathrm{x}14\mathrm{b}57\mathrm{f}2\mathrm{bcd}90\!\!>$
seed	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f2bcf90></ast.declaration>
count	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f2bcf90></ast.declaration>
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f2bce50></ast.declaration>

	Sc	ope:	ProbMatGen - Subroutine			
Id	type	precision	Dtype	ndim	Attributes	ref
M	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3ad390></ast.declaration>
seed	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3ad9d0></ast.declaration>
count	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3ad9d0></ast.declaration>
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3adad0></ast.declaration>
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3adad0></ast.declaration>

	LPPGene	ration -	Module			
Id	type	Dtype	ndim	Attributes	ref	
LPPGen	Subroutine					<ast.subroutine 0x14b57f3b9410="" at="" object=""></ast.subroutine>

Scope: LPPGen - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3b9710></ast.declaration>		
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b9710></ast.declaration>		
С	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b9710></ast.declaration>		
seed	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3b9890></ast.declaration>		
count	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3b9890></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b9990></ast.declaration>		
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b9990></ast.declaration>		

${\bf Scope:} \qquad {\it Linear Problem Solver - Module}$							
Id type precision Dtype ndim Attributes ref							
CanonicalForm	Subroutine					<ast.subroutine at<br="" object="">0x14b57f3b9f90></ast.subroutine>	

EqualityForm	Subroutine		<ast.subroutine 0x14b57f3c75d0="" at="" object=""></ast.subroutine>
StandardForm	Subroutine		<ast.Subroutine object at $0x14b57f3b6610>$
LeastNegativeForm	Subroutine		<ast.subroutine 0x14b57f3ce2d0="" at="" object=""></ast.subroutine>

Scope: CanonicalForm - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3c73d0></ast.declaration>		
С	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3c73d0></ast.declaration>		
x_opt	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3c73d0></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3c72d0></ast.declaration>		
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3c72d0></ast.declaration>		

Scope: Equality Form - Subroutine							
Id	type	precision	Dtype	ndim	Attributes	ref	
A_eq	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>	
b_eq	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>	

c_eq	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
x0	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
x_eq	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
eps	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
A_can	Array	16	real	2	<ast.Declaration object at $0x14b57f3b6490>$
c_can	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
x_can	Array	16	real	1	<ast.Declaration object at $0x14b57f3b6490>$
A_can1	Array	16	real	2	<ast.Declaration object at $0x14b57f3b6490>$
c_can1	Array	16	real	1	<ast.Declaration object at $0x14b57f3b6490>$
x_can1	Array	16	real	1	<ast.Declaration object at $0x14b57f3b6490>$
A	Array	16	real	2	<ast.Declaration object at $0x14b57f3b6490>$
b	Array	16	real	1	<ast.Declaration object at $0x14b57f3b6490>$
С	Array	16	real	1	<ast.Declaration object at $0x14b57f3b6490>$
x01	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
x_opt1	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
lambda	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3b6490></ast.declaration>
i	Scalar	4	integer		$< ast. Declaration object \\ at \ 0x14b57f3b63d0 >$

j	Scalar	4	integer		<ast.declaration< th=""><th>object</th></ast.declaration<>	object
					at 0x14b57f3b63d0)>

	Scope: Standard Form - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref			
A	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
С	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
x_opt	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
A_can	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
c_can	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
x_can	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
х	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
a0	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3aff90></ast.declaration>			
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3afc90></ast.declaration>			
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3afc90></ast.declaration>			

	Sco	pe: Le	astNegativ	veForm -	Subroutine	
Id	type	precision	Dtype	ndim	Attributes	ref
A_ln	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
b_ln	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
c_ln	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
у0	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
x0	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
x_ln	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
eps	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
e	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
A_aug	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
b_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
c_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
x0_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
x_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
A_augcan	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
c_augcan	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
x_augcan	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>

A_can	Array	16	real	2	<ast.declaration object<br="">at 0x14b57f3a7d50></ast.declaration>
c_can	Array	16	real	1	$<\!\!\mathrm{ast.Declaration}\mathrm{object}\\ \mathrm{at}\;0x14b57f3a7d50\!\!>$
x_can	Array	16	real	1	$<\!\!\mathrm{ast.Declaration}\mathrm{object}\\ \mathrm{at}\;0x14b57f3a7d50\!\!>$
i	Scalar	4	integer		$<\!$
j	Scalar	4	integer		$<\!$
opt	Scalar	4	integer		$<\!\!\mathrm{ast.Declaration}\mathrm{object}\\ \mathrm{at}\;0\mathrm{x}14\mathrm{b}57\mathrm{f}3\mathrm{a}0950\!>$
greater	Scalar	4	integer		$<\!\!\mathrm{ast.Declaration}\mathrm{object}\\ \mathrm{at}\;0\mathrm{x}14\mathrm{b}57\mathrm{f}3\mathrm{a}0950\!>$
num	Scalar	4	integer		$<\!$
feas	Scalar	4	integer		$<\!$
fail	Scalar	4	integer		$<\!$
ini_feas	Scalar	4	integer		$\begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} \ 0x14b57f3a0950 > \end{array}$

Scope: Algorithm - Module							
Id	type	precision	Dtype	ndim	Attributes	ref	
ProjectiveMethod	Function				result(x_can)	<ast.Function object at $0x14b57f3b4f50>$	

	So	cope:	Projective	Method -	Function	
Id	type	precision	Dtype	ndim	Attributes	ref
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3a0c50></ast.declaration>
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3a0c50></ast.declaration>
x_can	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b4150></ast.declaration>
x_p	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
х	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
f_p	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
f	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
eps	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
x0_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
x_aug	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3b4a10></ast.declaration>
n	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
iter	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
iter_limit	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
iter_num	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>

iterz	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3b4e50></ast.declaration>
Optimize	Subroutine				<ast.Subroutine object at $0x14b57f3cc850>$

	Scope: Optimize - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref			
x_p	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3cc3d0></ast.declaration>			
X	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3cc550></ast.declaration>			
е	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
Ad	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
В	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
v	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
c_p	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
c_unit	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
x0	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			
alpha	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3ba650></ast.declaration>			

		Scope: Statistics - Module					
Id	type	precision	Dtype	ndim	Attributes	ref	
arithmetic_vector	Function				result(amean)	<ast.Function object at $0x14b57f3ba8d0>$	
arithmetic_matrix	Function				result(amean)	<ast.Function object at $0x14b57f3e3110>$	
geometric_vector	Function				result(gmean)	<ast.Function object at $0x14b57f3e3890>$	
geometric_matrix	Function				result(gmean)	<ast.Function object at $0x14b57f3ea150>$	
harmonic_vector	Function				result(hmean)	<ast.Function object at $0x14b57f3eaa50>$	
harmonic_matrix	Function				result(hmean)	<ast.Function object at $0x14b57f3e6b90>$	

${\bf Scope} \text{ - } arithmetic_vector$								
Id	type	precision	Dtype	ndim	Attributes	ref		
vector	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ba910></ast.declaration>		
amean	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3baad0></ast.declaration>		

${\bf Scope} \text{ - } arithmetic_matrix$								
Id type precision Dtype ndim Attributes ref								
Matrix	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e3150></ast.declaration>		

amean	Scalar	16	real		<ast.declaration< th=""><th>object</th></ast.declaration<>	object
					at $0x14b57f3e33d0$	>

${\bf Scope} \textit{-} \textit{geometric_vector}$								
Id	type	precision	Dtype	ndim	Attributes	ref		
vector	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e3a10></ast.declaration>		
gmean	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3e3b90></ast.declaration>		

${\bf Scope} \text{ - } \textit{geometric_matrix}$								
Id	type	precision	Dtype	ndim	Attributes	ref		
Matrix	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ea190></ast.declaration>		
gmean	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3ea410></ast.declaration>		

${\bf Scope} \text{ - } harmonic_vector$								
Id type precision Dtype ndim Attributes ref								
vector	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ea990></ast.declaration>		

hmean	Scalar	16	real		<ast.declaration obje<="" th=""><th>ect</th></ast.declaration>	ect
					at $0x14b57f3eac10>$	

${\bf Scope} \text{ - } harmonic_matrix$								
Id	type	precision	Dtype	ndim	Attributes	ref		
Matrix	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e6b50></ast.declaration>		
hmean	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3e69d0></ast.declaration>		

	S	cope:	Histogram	nPlot -]	Module	
Id	type	precision	Dtype	ndim	Attributes	ref
histogram_vector	Subroutine					<ast.subroutine 0x14b57f40e710="" at="" object=""></ast.subroutine>
histogram_matrix	Subroutine					<ast.subroutine 0x14b57f40eb10="" at="" object=""></ast.subroutine>
Plot	Subroutine					<ast.subroutine 0x14b57f4061d0="" at="" object=""></ast.subroutine>

${\bf Scope} \text{ - } histogram_vector$								
Id	type	precision	Dtype	ndim	Attributes	ref		

vector	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e6190></ast.declaration>
i	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3e6d90></ast.declaration>
S	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3e6d90></ast.declaration>
n	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f3e6d90></ast.declaration>
limit	Scalar	16	real			$\begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} \ 0 \mathrm{x} 14 \mathrm{b} 57 \mathrm{f} 40 \mathrm{e} 250 > \end{array}$
interval	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f40e250></ast.declaration>
lowerbound	Scalar	6	character			<ast.declaration object<br="">at 0x14b57f40e450></ast.declaration>
upperbound	Scalar	6	character			<ast.declaration object<br="">at 0x14b57f40e450></ast.declaration>
filename	Scalar	16	character			<ast.declaration object<br="">at 0x14b57f40e590></ast.declaration>
group	Array	16	real	2	['allocatable']	<ast.declaration object<br="">at 0x14b57f40e7d0></ast.declaration>
p	Array	8	integer	1	['allocatable']	<ast.declaration object<br="">at 0x14b57f40e9d0></ast.declaration>

${\bf Scope} \text{ - } histogram_matrix$						
Id type precision Dtype ndim Attributes ref						ref
Matrix	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f40ecd0></ast.declaration>

Scope: Plot - Subroutine							
Id	type	precision	Dtype	ndim	Attributes	ref	
Y	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f40ee90></ast.declaration>	
Z	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f406190></ast.declaration>	
X	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f406310></ast.declaration>	
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f406350></ast.declaration>	

	Scope: Postprocessor - Module						
Id	type	precision	Dtype	ndim	Attributes	ref	
Stats_vector	Subroutine					<ast.Subroutine object at $0x14b57f406d50>$	
Stats_matrix	Subroutine					<ast.subroutine 0x14b57f3f4590="" at="" object=""></ast.subroutine>	
EIGENRECORD	Subroutine					<ast.subroutine 0x14b57f3f4b90="" at="" object=""></ast.subroutine>	
EigenAnalysis	Subroutine					<ast.subroutine 0x14b57f3f1210="" at="" object=""></ast.subroutine>	

$\mathbf{Scope} \text{ - } Stats_vector$							
Id type precision Dtype ndim Attributes ref							
vector Array 16 real 1 ['intent(in)'] <ast.declaration 0x14b57f406c10="" at="" object=""></ast.declaration>							

M	Scalar	16	real	['intent(out)']	<ast.declaration object<br="">at 0x14b57f406e90></ast.declaration>
StdDev	Scalar	16	real	['intent(out)']	<ast.declaration object<br="">at 0x14b57f406e90></ast.declaration>
S	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f406fd0></ast.declaration>
ssq	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f406fd0></ast.declaration>
i	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3f4250></ast.declaration>
n	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3f4250></ast.declaration>

	$\mathbf{Scope} \text{ - } \textit{Stats_matrix}$							
Id	type	precision	Dtype	ndim	Attributes	ref		
Matrix	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3f45d0></ast.declaration>		
M	Scalar	16	real		['intent(out)']	<ast.declaration object<br="">at 0x14b57f3f4890></ast.declaration>		
StdDev	Scalar	16	real		['intent(out)']	<ast.declaration object<br="">at 0x14b57f3f4890></ast.declaration>		

Scope: EIGENRECORD - Subroutine							
Id type precision Dtype ndim Attributes ref							
M	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3f4c10></ast.declaration>	

Е	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3f4d50></ast.declaration>
COND	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3f4d50></ast.declaration>
i	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3f4b50></ast.declaration>

	${\bf Scope:} \qquad \textbf{\it EigenAnalysis-Subroutine}$							
Id	type	precision	Dtype	ndim	Attributes	ref		
E	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3f1510></ast.declaration>		
COND	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3f1510></ast.declaration>		
IOstatus	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3f1750></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3f1750></ast.declaration>		
n	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3f1750></ast.declaration>		

${ m Scope:} \qquad \mathit{LPTools} ext{ - Module}$						
Id	type	precision	Dtype	ndim	Attributes	ref
Potential	Function				result(f)	<ast.Function object at $0x14b57f3f1f90>$
zero_ratio	Function				result(alpha)	<ast.Function object at $0x14b57f3e1550>$

min_ratio	Function	result(alpha)	<ast.Function object at 0 x14b57f40a1d0 $>$
Dual	Subroutine		<ast.Subroutine object at 0 x14b57f40a810 $>$
StdToCan	Subroutine		<ast.Subroutine object at $0x14b57f3ff5d0>$
Transform	Subroutine		<ast.Subroutine object at 0 x14b57f3ffc50 $>$
InvTransform	Function	result(x)	<ast.Function object at 0 x14b57f3fca10 $>$

		Scope:	Potenta	ial - Fun	ction	
Id	type	precision	Dtype	ndim	Attributes	ref
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3f1dd0></ast.declaration>
X	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3f1dd0></ast.declaration>
f	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3f1d90></ast.declaration>

Scope - zero_ratio						
Id type precision Dtype ndim Attributes ref						
n	Scalar	4	integer		['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e12d0></ast.declaration>
c_unit	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e1410></ast.declaration>

alpha	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3e1690></ast.declaration>
a	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3e1690></ast.declaration>
beta	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3e13d0></ast.declaration>
idx	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3e1910></ast.declaration>

${\bf Scope} \text{ - } min_ratio$							
Id	type	precision	Dtype	ndim	Attributes	ref	
n	Scalar	4	integer		['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e1d10></ast.declaration>	
c_unit	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3e1e50></ast.declaration>	
alpha	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3e1fd0></ast.declaration>	
beta	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f3e1f90></ast.declaration>	
idx	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f40a350></ast.declaration>	

Scope: Dual - Subroutine						
Id	type	precision	Dtype	ndim	Attributes	ref
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f40ab50></ast.declaration>

b	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f40ab50></ast.declaration>
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f40ab50></ast.declaration>
A_dual	Array	16	real	2	['intent(out)']	<ast.declaration object<br="">at 0x14b57f40ad50></ast.declaration>
b_dual	Array	16	real	1	['intent(out)']	<ast.declaration object<br="">at 0x14b57f40ad50></ast.declaration>
c_dual	Array	16	real	1	['intent(out)']	<ast.declaration object<br="">at 0x14b57f40ad50></ast.declaration>

Scope: StdToCan - Subroutine							
Id	type	precision	Dtype	ndim	Attributes	ref	
A_std	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f409990></ast.declaration>	
b_std	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f409990></ast.declaration>	
c_std	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f409990></ast.declaration>	
A_can	Array	16	real	2	['intent(out)']	<ast.declaration object<br="">at 0x14b57f409fd0></ast.declaration>	
c_can	Array	16	real	1	['intent(out)']	<ast.declaration object<br="">at 0x14b57f409fd0></ast.declaration>	
a0	Array	16	real	1	['intent(out)']	<ast.declaration object<br="">at 0x14b57f409fd0></ast.declaration>	
A	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f402850></ast.declaration>	
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f402850></ast.declaration>	
С	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f402850></ast.declaration>	

x0	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3ff4d0></ast.declaration>
y0	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3ff4d0></ast.declaration>
u0	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3ff4d0></ast.declaration>
v0	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f3ff4d0></ast.declaration>
lambda_0	Scalar	16	real		<ast.declaration object<br="">at 0x14b57f3ff4d0></ast.declaration>
m	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3ff610></ast.declaration>
n	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3ff610></ast.declaration>
i	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3ff610></ast.declaration>
j	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f3ff610></ast.declaration>

Scope: Transform - Subroutine						
Id	type	precision	Dtype	ndim	Attributes	ref
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ffe10></ast.declaration>
b	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ffe10></ast.declaration>
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ffe10></ast.declaration>
a0	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3ffe10></ast.declaration>
A_can	Array	16	real	2	['intent(out)']	<ast.declaration object<br="">at 0x14b57f3fff90></ast.declaration>

c_can	Array	16	real	1	['intent(out)']	<ast.declaration< th=""><th>object</th></ast.declaration<>	object
						at $0x14b57f3fff90>$	

	Scope:			sform - Function			
Id	type	precision	Dtype	ndim	Attributes	ref	
x_can	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3fc8d0></ast.declaration>	
x0	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3fc8d0></ast.declaration>	
X	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3fc850></ast.declaration>	

${ m Scope:} \qquad {\it LAOperators} ext{-} { m Module}$						
Id	type	precision	Dtype	ndim	Attributes	ref
DIAG	Function				result(D)	<ast.Function object at $0x14b57f3fa310>$
ONES	Function				result(D)	<ast.Function object at $0x14b57f3fa5d0>$
COLMULT	Function				result(cA)	<ast.Function object at $0x14b57f1e4050>$
ADD	Function				result(a)	<ast.Function object at $0x14b57f1e47d0>$
DOT	Function				result(bTc)	<ast.Function object at $0x14b57f1e4a10>$
ENORM	Function				result(n)	<ast.Function object at $0x14b57f1e5450>$

UPPER	Function	$\operatorname{result}(\operatorname{U})$	<ast.Function object at $0x14b57f1e56d0>$
LOWER	Function	$\operatorname{result}(\operatorname{L})$	<ast.Function object at $0x14b57f1e5e10>$
CholeskyDecomp	Function	$\operatorname{result}(\operatorname{L})$	<ast.Function object at $0x14b57f1e7a50>$
SPDLUD	Subroutine		<ast.subroutine 0x14b57f1e9810="" at="" object=""></ast.subroutine>
ForSubstitution	Function	result(x)	$\begin{array}{c} < ast. Function \ object \ at \\ 0x14b57f1ea0d0 > \end{array}$
BackSubstitution	Function	result(x)	<ast.Function object at 0 x14b57f1ea5d 0 >
GEMV	Function	result(Mv)	<ast.Function object at 0 x14b57f1eacd 0 >
GEMM	Function	result(AB)	<ast.function 0x14b57f1ec490="" at="" object=""></ast.function>
TRANS	Function	result(AT)	<ast.Function object at $0x14b57f1ecd50>$

Scope: DIAG - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
X	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3fced0></ast.declaration>		
D	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3fcf10></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f3fa090></ast.declaration>		

Scope: ONES - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
n	Scalar	4	integer		['intent(in)']	<ast.declaration object<br="">at 0x14b57f3fa950></ast.declaration>		
D	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f3faa50></ast.declaration>		
е	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f3fac10></ast.declaration>		

Scope: $COLMULT$ - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3faf50></ast.declaration>		
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f3faf50></ast.declaration>		
cA	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e40d0></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e42d0></ast.declaration>		

Scope: ADD - Function							
Id	type	precision	Dtype	ndim	Attributes	ref	
V	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e4850></ast.declaration>	
a	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f1e4910></ast.declaration>	

i	Scalar	4	integer		<ast.declaration< th=""><th>object</th></ast.declaration<>	object
					at 0x14b57f1e4a50	>

Scope: DOT - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
b	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e4f50></ast.declaration>		
С	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e4f50></ast.declaration>		
bTc	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f1e4f90></ast.declaration>		

		Scope:	ENOR	<i>M -</i> Fun	ction	
Id	type	precision	Dtype	ndim	Attributes	ref
u	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1e52d0></ast.declaration>
n	Scalar	16	real			$ \begin{array}{c} <\!\! \mathrm{ast.Declaration} \mathrm{object} \\ \mathrm{at} \ 0\mathrm{x}14\mathrm{b}57\mathrm{f}1\mathrm{e}53\mathrm{d}0 > \end{array} $

		Scope:	UPPE	R - Fund	ction	
Id	type	precision	Dtype	ndim	Attributes	ref

A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e5750></ast.declaration>
U	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e58d0></ast.declaration>
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e5910></ast.declaration>

Scope: LOWER - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e5ed0></ast.declaration>		
L	Array	16	real	2		$ \begin{array}{c} <\!\! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} \ 0x14b57f1e5fd0 > \end{array} $		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e70d0></ast.declaration>		

Scope: Cholesky Decomp - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e75d0></ast.declaration>		
L	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e7790></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e77d0></ast.declaration>		
summ	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f1e7b50></ast.declaration>		

Scope : SPDLUD - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1e7f50></ast.declaration>		
L	Array	16	real	2	['intent(out)']	<ast.declaration object<br="">at 0x14b57f1e93d0></ast.declaration>		
U	Array	16	real	2	['intent(out)']	<ast.declaration object<br="">at 0x14b57f1e93d0></ast.declaration>		
q	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e97d0></ast.declaration>		
n	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e97d0></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e97d0></ast.declaration>		
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1e97d0></ast.declaration>		
D	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1e9ad0></ast.declaration>		
Dia	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e9ad0></ast.declaration>		

	Scope:				Function	
Id	type	precision	Dtype	ndim	Attributes	ref
L	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1e9f10></ast.declaration>
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1e9f10></ast.declaration>

X	Array	16	real	1	<ast.declaration object<br="">at 0x14b57f1ea110></ast.declaration>
i	Scalar	4	integer		<ast.declaration object<br="">at 0x14b57f1ea050></ast.declaration>

Scope: Back Substitution - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
U	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1ea150></ast.declaration>		
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1ea150></ast.declaration>		
X	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1ea790></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1ea750></ast.declaration>		

		Scope:	GEM	V - Func	tion	
Id	type	precision	Dtype	ndim	Attributes	ref
M	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1ea910></ast.declaration>
V	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1ea910></ast.declaration>
Mv	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f1eae50></ast.declaration>
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1eae10></ast.declaration>

Scope: GEMM - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1ec210></ast.declaration>		
В	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1ec210></ast.declaration>		
AB	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1ec650></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1eca10></ast.declaration>		
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1eca10></ast.declaration>		

Scope: $TRANS$ - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1ecdd0></ast.declaration>		
AT	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1ecf90></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1ed290></ast.declaration>		
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1ed290></ast.declaration>		

Scope: LAPACKOperators - Module								
Id	type	precision	Dtype	ndim	Attributes	ref		
DOT	Function				result(uTv)	<ast.Function object at $0x14b57f1eda10>$		
ENORM	Function				result(NormV)	<ast.Function object at $0x14b57f1ede10>$		
DPOINV	Function				result(AINV)	<ast.Function object at $0x14b57f1ef290>$		
EIGEN	Function				result(E)	<ast.Function object at $0x14b57f1f2690>$		
LAGEMV	Function				result(AX)	<ast.Function object at $0x14b57f1f3490>$		
LAGEMM	Function				result(C)	<ast.Function object at $0x14b57f1f5110>$		

Scope: DOT - Function									
Id	type	precision	Dtype	ndim	Attributes	ref			
SX	Array	8	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1ed910></ast.declaration>			
SY	Array	8	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1ed910></ast.declaration>			
uTv	Scalar	8	real			<ast.declaration object<br="">at 0x14b57f1ed810></ast.declaration>			
N	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1edc10></ast.declaration>			
INCX	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1edc10></ast.declaration>			
INCY	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1edc10></ast.declaration>			

Scope: $ENORM$ - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
X	Array	8	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1eded0></ast.declaration>		
NormV	Scalar	8	real			<ast.declaration object<br="">at 0x14b57f1edf10></ast.declaration>		
N	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1ef190></ast.declaration>		
INCX	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1ef190></ast.declaration>		

Scope : DPOINV - Function									
Id	type	precision	Dtype	ndim	Attributes	ref			
A	Array	8	real	2	['intent(in)']	$ \begin{array}{c} < ast. Declaration object \\ at \; 0x14b57f1ef4d0 > \end{array} $			
AINV	Array	8	real	2		<ast.declaration object<br="">at 0x14b57f1ef450></ast.declaration>			
UPLO	Scalar		character			<ast.declaration object<br="">at 0x14b57f1ef610></ast.declaration>			
N	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			
LDA	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			
IPIV	Array	4	integer	1		<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			
INFO	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1efe10></ast.declaration>			

		Scope: EIGEN - Function						
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	8	real	2		<ast.declaration object<br="">at 0x14b57f1ed390></ast.declaration>		
E	Array	8	real	1		<ast.declaration object<br="">at 0x14b57f1f2250></ast.declaration>		
JOBZ	Scalar		character			<ast.declaration object<br="">at 0x14b57f1f2310></ast.declaration>		
N	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1f2750></ast.declaration>		
LDA	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1f2750></ast.declaration>		
LWORK	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1f2750></ast.declaration>		
INFO	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f1f2750></ast.declaration>		
WORK	Array	8	real	1	['allocatable']	<ast.declaration object<br="">at 0x14b57f1f2890></ast.declaration>		

Scope: $LAGEMV$ - Function								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	8	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f2510></ast.declaration>		
X	Array	8	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f2510></ast.declaration>		
AX	Array	8	real	1		<ast.declaration object<br="">at 0x14b57f1f2c50></ast.declaration>		

TRANS	Scalar		character	<ast.declaration object<br="">at 0x14b57f1f2e90></ast.declaration>
M	Scalar	8	integer	$ \begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} 0 \mathrm{x} 14 \mathrm{b} 57 \mathrm{f} 1f 3550 > \end{array} $
N	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f3550></ast.declaration>
LDA	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f3550></ast.declaration>
INCX	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f3550></ast.declaration>
INCY	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f3550></ast.declaration>
ALPHA	Scalar	8	real	<ast.declaration object<br="">at 0x14b57f1f3750></ast.declaration>
BETA	Scalar	8	real	<ast.declaration object<br="">at 0x14b57f1f3750></ast.declaration>

	Scope: LAGEMM - Function								
Id	type	precision	Dtype	ndim	Attributes	ref			
A	Array	8	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f3950></ast.declaration>			
В	Array	8	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f3950></ast.declaration>			
С	Array	8	real	2		<ast.declaration object<br="">at 0x14b57f1f3c90></ast.declaration>			
TRANSA	Scalar		character			<ast.declaration object<br="">at 0x14b57f1f3e50></ast.declaration>			
M	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>			
N	Scalar	8	integer			<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>			

K	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>
LDA	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>
LDB	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>
LDC	Scalar	8	integer	<ast.declaration object<br="">at 0x14b57f1f5410></ast.declaration>
ALPHA	Scalar	8	real	<ast.declaration object<br="">at 0x14b57f1f5650></ast.declaration>
BETA	Scalar	8	real	<ast.declaration object<br="">at 0x14b57f1f5650></ast.declaration>

Scope: Augment - Module								
Id	type	precision	Dtype	ndim	Attributes	ref		
HAugment_vv	Function				result(ab)	<ast.Function object at $0x14b57f1f5d10>$		
HAugment_Mv	Function				result(Ab)	$\begin{array}{c} < ast. Function \ object \ at \\ 0x14b57f1f7c50 > \end{array}$		
HAugment_vM	Function				result(aB)	<ast.function 0x14b57f1faa10="" at="" object=""></ast.function>		
HAugment_MM	Function				result(AB)	<ast.Function object at $0x14b57f1fe310>$		
VAugment_ss	Function				result(ab)	<ast.Function object at $0x14b57f200210>$		
VAugment_sv	Function				result(sv)	<ast.Function object at $0x14b57f200b50>$		
VAugment_vs	Function				result(vs)	<ast.Function object at $0x14b57f2035d0>$		
VAugment_vv	Function				result(ab)	<ast.Function object at $0x14b57f206150>$		

VAugment_Mv	Function	result(Ab_T)	<ast.Function object at $0x14b57f2091d0>$
VAugment_vM	Function	result(a_TB)	<ast.Function object at $0x14b57f209ed0>$
VAugment_MM	Function	result(AB)	<ast.Function object at $0x14b57f20de50>$

	${\bf Scope} \text{ - } \textit{HAugment_vv}$							
Id	type	precision	Dtype	ndim	Attributes	ref		
a	Array	16	real	1	['intent(in)']	$\begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} \ 0 \mathrm{x} 14 \mathrm{b} 57 \mathrm{f} 1 \mathrm{f} 5 \mathrm{c} 50 > \end{array}$		
b	Array	16	real	1	['intent(in)']	$ \begin{array}{c} <\!\! \operatorname{ast.Declaration} \operatorname{object} \\ \mathrm{at} \; 0\mathrm{x}14\mathrm{b}57\mathrm{f}1\mathrm{f}5\mathrm{c}50 > \end{array} $		
ab	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1f5bd0></ast.declaration>		

${\bf Scope} \text{ - } HAugment_Mv$							
Id	type	precision	Dtype	ndim	Attributes	ref	
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f70d0></ast.declaration>	
b	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1f70d0></ast.declaration>	
Ab	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f1f76d0></ast.declaration>	

${\tt Scope} \text{ - } HAugment_vM$								
Id	type	precision	Dtype	ndim	Attributes	ref		
a	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1fa410></ast.declaration>		
В	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1fa410></ast.declaration>		
aB	Array	16	real	2		$\begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} 0x14b57f1fa390 > \end{array}$		

${\bf Scope - \textit{HAugment_MM}}$							
Id	type	precision	Dtype	ndim	Attributes	ref	
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1fa810></ast.declaration>	
В	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f1fa810></ast.declaration>	
AB	Array	16	real	2		$\begin{array}{c} <\!\!\operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} 0\mathrm{x}14\mathrm{b}57\mathrm{f}1\mathrm{fad}50\!\!> \end{array}$	

${\bf Scope - \textit{VAugment_ss}}$								
Id	type	precision	Dtype	ndim	Attributes	ref		
a	Scalar	16	real		['intent(in)']	<ast.Declaration object at 0 x14b57f1fef10 $>$		
b	Scalar	16	real		['intent(in)']	<ast.declaration object<br="">at 0x14b57f1fef10></ast.declaration>		
ab	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f2000d0></ast.declaration>		

	${\bf Scope - \textit{VAugment_sv}}$							
Id	type	precision	Dtype	ndim	Attributes	ref		
s	Scalar	16	real		['intent(in)']	<ast.declaration object<br="">at 0x14b57f200750></ast.declaration>		
V	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f200750></ast.declaration>		
sv	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f200850></ast.declaration>		

${\bf Scope - \textit{VAugment_vs}}$							
Id	type	precision	Dtype	ndim	Attributes	ref	
V	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f203250></ast.declaration>	
S	Scalar	16	real		['intent(in)']	<ast.declaration object<br="">at 0x14b57f203250></ast.declaration>	
vs	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f203050></ast.declaration>	

${\bf Scope - \textit{VAugment_vv}}$								
Id type precision Dtype ndim Attributes ref								
a	Array	16	real	1	['intent(in)']	$ \begin{array}{ll} <& \text{ast.Declaration} & \text{object} \\ \text{at } 0\text{x}14\text{b}57\text{f}203\text{d}10> \end{array} $		

b	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f203d10></ast.declaration>
ab	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f203c90></ast.declaration>

	${\bf Scope - \textit{VAugment_Mv}}$								
Id	type	precision	Dtype	ndim	Attributes	ref			
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f206790></ast.declaration>			
b_T	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f206790></ast.declaration>			
Ab_T	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f206ad0></ast.declaration>			

${\bf Scope - \textit{VAugment_vM}}$								
Id	type	precision	Dtype	ndim	Attributes	ref		
a_T	Array	16	real	1	['intent(in)']	<ast.declaration object<br="">at 0x14b57f209990></ast.declaration>		
В	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f209990></ast.declaration>		
a_TB	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f209910></ast.declaration>		

	${\bf Scope - \textit{VAugment_MM}}$								
Id	type	precision	Dtype	ndim	Attributes	ref			
A	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f20d090></ast.declaration>			
В	Array	16	real	2	['intent(in)']	<ast.declaration object<br="">at 0x14b57f20d090></ast.declaration>			
AB	Array	16	real	2		<ast.declaration object<br="">at 0x14b57f20d750></ast.declaration>			

		Scope:	GeoGe	ebra - Me	${f Scope:} \hspace{1cm} {f GeoGebra-Module}$							
Id	type	precision	Dtype	ndim	Attributes	ref						
GGBInit	Subroutine					<ast.Subroutine object at $0x14b57f20f5d0>$						
GGBPlot	Subroutine					<ast.Subroutine object at $0x14b57f20de10>$						
GGBPlotSystem	Subroutine					<ast.Subroutine object at $0x14b57f213410>$						
GGBPlotPoint	Subroutine					<ast.Subroutine object at $0x14b57f2138d0>$						
GGBPlotVector	Subroutine					<ast.Subroutine object at $0x14b57f216610>$						
GGBPlotPlane	Subroutine					<ast.Subroutine object at $0x14b57f216c90>$						
GGBLabel	Subroutine					<ast.Subroutine object at $0x14b57f216e10>$						
GGBCommand	Subroutine					<ast.Subroutine object at $0x14b57f218150>$						

Scope: GGBInit-Subroutine							
Id	type	precision	Dtype	ndim	Attributes	ref	
X	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f20fb50></ast.declaration>	
Y	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f20fb50></ast.declaration>	
Z	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f20fb50></ast.declaration>	
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f20f410></ast.declaration>	
j	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f20f410></ast.declaration>	

Scope: GGBPlot				t - Subr	outine	
Id	type	precision	Dtype	ndim	Attributes	ref

Scope: GGBPlotSystem - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref		
A	Array	16	real	2		$ \begin{array}{c} <\!\! \mathrm{ast.Declaration} \mathrm{object} \\ \mathrm{at} \; 0\mathrm{x}14\mathrm{b}57\mathrm{f}20\mathrm{ff}10\!\! > \!\! \end{array} $		
c	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f20ff10></ast.declaration>		
b	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f213190></ast.declaration>		
i	Scalar	4	integer			<ast.declaration object<br="">at 0x14b57f213150></ast.declaration>		

str	Array	10	character	1	$\begin{array}{c} < \! \operatorname{ast.Declaration} \operatorname{object} \\ \operatorname{at} 0 \mathrm{x} 14 \mathrm{b} 57 \mathrm{f} 213450 > \end{array}$
vstr	Scalar	100	character		<ast.declaration object<br="">at 0x14b57f213050></ast.declaration>

	Scope: GGBPlotPoint - $Subroutine$								
Id	type	precision	Dtype	ndim	Attributes	ref			
V	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f2139d0></ast.declaration>			
label	Scalar	10	character			<ast.declaration object<br="">at 0x14b57f213750></ast.declaration>			
color	Scalar	6	character			<ast.declaration object<br="">at 0x14b57f213cd0></ast.declaration>			
str	Array	10	character	1		<ast.declaration object<br="">at 0x14b57f213e10></ast.declaration>			
vstr	Scalar	100	character			<ast.declaration object<br="">at 0x14b57f213f10></ast.declaration>			

	Scope: GGBPlot Vector - Subroutine								
Id	type	precision	Dtype	ndim	Attributes	ref			
V	Array	16	real	1		$ \begin{array}{c} < ast. Declaration object \\ at \ 0x14b57f2162d0 > \end{array} $			
str	Array	10	character	1		<ast.declaration object<br="">at 0x14b57f216150></ast.declaration>			
vstr	Scalar	100	character			<ast.declaration object<br="">at 0x14b57f216490></ast.declaration>			

Scope: GGBPlotPlane - Subroutine						
Id	type	precision	Dtype	ndim	Attributes	ref
С	Array	16	real	1		<ast.declaration object<br="">at 0x14b57f216a90></ast.declaration>
b	Scalar	16	real			<ast.declaration object<br="">at 0x14b57f216a90></ast.declaration>
str	Array	10	character	1		<ast.declaration object<br="">at 0x14b57f216ad0></ast.declaration>
vstr	Scalar	50	character			<ast.declaration object<br="">at 0x14b57f216990></ast.declaration>

	S	Scope :	GGBLabel - Subroutine			
Id	type	precision	Dtype	ndim	Attributes	ref
label	Scalar	10	character			<ast.declaration object<br="">at 0x14b57f216f50></ast.declaration>

Scope: GGBCommand - Subroutine							
Id	type	precision	Dtype	ndim	Attributes	ref	
str	Scalar	10	character		['intent(in)']	<ast.declaration object<br="">at 0x14b57f218210></ast.declaration>	