pointer:0x7f15efa27010 SgSourceFile

root node

```
SgNode* p_parent : 0x1334a50
bool p isModified: 0
bool p_containsTransformation: 0
Sq File Info* p startOfConstruct : 0x7f15efbe6068
SgStringList p_originalCommandLineArgumentList : [pdfGenerator, -std=c++11, -c, lambda.cxx]
int p_verbose: 0
bool p_output_warnings: 0
bool p_C_only: 0
bool p_UPC_only: 0
bool p_UPCxx_only: 0
int p_upc_threads: 0
bool p C89 only: 0
bool p_C89_gnu_only: 0
bool p_C99_only: 0
bool p_C99_gnu_only: 0
bool p_Cxx_only: 1
bool p_C11_only: 0
bool p_C11_gnu_only: 0
bool p_Cxx0x_only: 0
bool p_Cxx11_only: 1
bool p_Cxx11_gnu_only: 0
bool p_C14_only: 0
bool p_C14_gnu_only: 0
bool p Cxx14 only: 0
bool p_Cxx14_gnu_only: 0
bool p_Fortran_only: 0
bool p_F77_only: 0
bool p_F90_only: 0
bool p_F95_only: 0
bool p_F2003_only: 0
bool p_F2008_only: 0
bool p_CoArrayFortran_only: 0
bool p_Java_only: 0
bool p_X10_only: 0
bool p_PHP_only: 0
bool p_Python_only: 0
bool p_Cuda_only: 0
bool p_OpenCL_only: 0
bool p_requires_C_preprocessor: 0
bool p_binary_only: 0
SgFile::outputFormatOption enum p inputFormat: 2
SgFile::outputFormatOption_enum p_outputFormat : 2
SgFile::outputFormatOption_enum p_backendCompileFormat : 2
bool p_fortran_implicit_none: 0
bool p_openmp: 0
bool p openmp parse only: 1
bool p_openmp_ast_only: 0
bool p_openmp_lowering: 0
bool p_cray_pointer_support: 0
bool p_failsafe: 0
bool p output parser actions: 0
bool p_exit_after_parser : 0
bool p_skip_syntax_check: 0
bool p_relax_syntax_check : 0
bool p_skip_translation_from_edg_ast_to_rose_ast : 0
bool p_skip_transformation: 0
bool p_skip_unparse: 0
bool p_skipfinalCompileStep: 0
bool p_unparse_includes: 0
bool p_unparse_line_directives: 0
bool p_unparse_function_calls_using_operator_syntax: 0
```

pointer:0x7f15efb61120 SgGlobal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15efa27010

```
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15efbe60c0
Sg_File_Info* p_endOfConstruct : 0x7f15efbe6118
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb16140
SgTypeTable* p_type_table: 0x136f498
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgDeclarationStatementPtrList p_declarations: <too long>: <too long>: [0x7f15ef87c010, 0x7f15ef87c2b0, 0x7f15ef3ad010, 0x7f15e
```

pointer:0x7f15ed90e010
SgNamespaceDeclarationStatement
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 8:1
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: RAJA

SgNamespaceDefinitionStatement* p_definition: 0x7f15eda3f010

bool p_isUnnamedNamespace : 0
bool p_isInlinedNamespace : 0

```
SgNode* p_parent : 0x7f15efb61120
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3cbd8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3cc30
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0x1407730
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 1
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed90e010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name: RAJA
```

pointer:0x7f15eda3f010 SgNamespaceDefinitionStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 9:1 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed90e010
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3c760
Sg_File_Info* p_endOfConstruct : 0x7f15edeecab0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0x1b1eae0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb18870
SgTypeTable* p type table: 0x136f9c0
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgDeclarationStatementPtrList p_declarations: [0x7f15ef899b30, 0x7f15ed61e440, 0x7f15ee318310, 0x7f15ed61eca0]
SgNamespaceDeclarationStatement* p_namespaceDeclaration: 0x7f15ed90e010
SgNamespaceDefinitionStatement* p_previousNamespaceDefinition: 0
SgNamespaceDefinitionStatement* p_nextNamespaceDefinition: 0
SgNamespaceDefinitionStatement* p_global_definition: 0x7f15eda3f148
bool p isUnionOfReentrantNamespaceDefinitions: 0
```

Declaration mangled name: L89R Click here to go to the parent node SgNode* p_parent : 0x7f15eda3f010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3cc88 Sg_File_Info* p_endOfConstruct : 0x7f15edb3cce0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 SgLabelRefExp* p_numeric_label: 0 int p_source_sequence_value : -1 unsigned int p decl attributes: 0 std::string p_linkage: SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie bool p_nameOnly: 0 bool p_forward: 0 bool p_externBrace: 0 bool p_skipElaborateType: 0 SgDeclarationStatement* p_definingDeclaration: 0 SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ef899b30 SgQualifiedNamePtrList p_qualifiedNameList : []

pointer:0x7f15ef899b30 SgTypedefDeclaration

IsOutputInCodeGeneration:0

std::string p_binding_label : SgName p_name : Index_type

SgType* p_base_type : 0x7f15ef6a1010 SgTypedefType* p_type : 0x7f15ef83e9d8 SgDeclarationStatement* p_declaration : 0 SgSymbol* p_parent_scope : 0x7f15ed8db010

bool p_isAutonomousDeclaration : 1
bool p_isAssociatedWithDeclarationList : 0
bool p_isFirstDeclarationOfDeclarationList : 1

bool p_typedefBaseTypeContainsDefiningDeclaration : 0

SgScopeStatement* p_scope: 0x7f15eda3f010
bool p_requiresGlobalNameQualificationOnType: 0
int p_name_qualification_length_for_base_type: 0
bool p_type_elaboration_required_for_base_type: 0
bool p_global_qualification_required_for_base_type: 0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 10:3

```
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 14:3
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L90R__L91R
   Click here to go to the parent node
SqNode* p parent: 0x7f15eda3f010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3dba8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3cd90
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0x14098a0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15ed61e440
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed61e010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label :
SgName p_name: forall
SgFunctionParameterList* p_parameterList : 0x7f15eeb5b500
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SgTypePtrList p_exceptionSpecification : []
bool p_named_in_end_statement: 0
std::string p_asm_name :
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type : 0x7f15ef5a40e0
SgFunctionDefinition* p_definition: 0x7f15ed589010
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType : 0
std::string p_gnu_extension_section :
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr : 0
bool p_using_new_function_return_type_syntax : 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgTemplateParameterPtrList p_templateParameters : [0x7f15ed85d010, 0x7f15ed85d070]
SgTemplateArgumentPtrList p_templateSpecializationArguments : []
SgName p_string: <too long>: <too long>: template < typename EXEC_POLICY_T,
                                                                                      typename LOOP BODY >
bool p string represents function body: 0
```

pointer:0x7f15ed61e440

SgTemplateFunctionDeclaration

pointer:0x7f15eeb5b500 SgFunctionParameterList /home/liao6/workspace/github/rose-ast.git/lambda.cxx 16:14 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L91R

SgInitializedNamePtrList p_args: [0x7f15edb75b40, 0x7f15edb75c88, 0x7f15edb75dd0]

```
SgNode* p_parent : 0x7f15ed61e440
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3d4c8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d520
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5b500
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

```
pointer:0x7f15edb75b40
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 16:39
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7f15eeb5b500
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3d158
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d1b0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: begin
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61e440
SgStorageModifier* p_storageModifier : 0x21a3520
SgScopeStatement* p_scope : 0x7f15ed589010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
pointer:0x7f15edb75c88
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 16:57
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7f15eeb5b500
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3d208
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d260
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: end
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61e440
SgStorageModifier* p_storageModifier : 0x21a3548
SgScopeStatement* p_scope : 0x7f15ed589010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p_gnu_attribute_named_weak_reference :
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
pointer:0x7f15edb75dd0
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 17:28
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7f15eeb5b500
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3d2b8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d310
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: loop body
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ed88c0b0
SgInitializer* p_initptr : 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61e440
SgStorageModifier* p_storageModifier : 0x21a3570
SgScopeStatement* p_scope : 0x7f15ed589010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed589010 SgTemplateFunctionDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 18:14 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed61e440
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3d368
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d3c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb18c00
SgTypeTable* p_type_table: 0x136fa38
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7f15ede40240
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede40240 SgBasicBlock /home/liao6/workspace/github/rose-ast.git/lambda.cxx 18:14 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed589010
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3d0a8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3d100
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb18ad0
SgTypeTable* p_type_table: 0x136fa10
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec010]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec010 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:16 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40240

bool p_isModified : 0

bool p_containsTransformation: 0

Sg_File_Info* p_startOfConstruct : 0x7f15edb3ddb8 Sg_File_Info* p_endOfConstruct : 0x7f15edb3de10

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd70f0

pointer:0x7f15edcd70f0 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:23 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

bool p_uses_operator_syntax: 0

SgNode* p_parent : 0x7f15ed4ec010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3dd08 Sg_File_Info* p_endOfConstruct : 0x7f15edb3dd60 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3daa0 SgExpression* p_function: 0x7f15ed55a010 SgExprListExp* p_args: 0x7f15edd0e148 SgType* p_expression_type : 0x7f15ef5a40e0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:16

pointer:0x7f15ed55a010 SgTemplateFunctionRefExp

bool p_global_qualified_name: 0

int p_name_qualification_length : 0
bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

Sg_File_Info* p_operatorPosition : 0x7f15edb3d418 SgTemplateFunctionSymbol* p_symbol_i : 0x21e87d0

IsTransformation:0

pointer:0x7f15edd0e148 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgNode* p_parent: 0x7f15edcd70f0

```
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffff
$g_File_Info* p_startOfConstruct: 0x7f15edb3dc00
$g_File_Info* p_endOfConstruct: 0x7f15edb3dc58
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
$g_File_Info* p_operatorPosition: 0x7f15edb3d998
```

SgExpressionPtrList p_expressions: [0x7f15ed51b010, 0x7f15edd410e0, 0x7f15edd41148, 0x7f15edd411b0]

pointer:0x7f15ed51b010 SgConstructorInitializer /home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:25 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: EXEC_POLICY_T

Click here to go to the parent node

SgNode* p_parent : 0x7f15edd0e148

bool p_global_qualification_required: 0

bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3d470 Sg_File_Info* p_endOfConstruct : 0x7f15edb3d7e0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition : 0x7f15edb3d6d8 bool p_is_explicit_cast: 1 bool p_is_braced_initialized: 0 SgMemberFunctionDeclaration* p_declaration: 0 SgExprListExp* p_args: 0x7f15edd0e0e0 SgType* p_expression_type: 0x7f15ed88c010 bool p need name: 1 bool p_need_qualifier: 0 bool p_need_parenthesis_after_name: 1 bool p associated class unknown: 1 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd0e0e0 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgExpressionPtrList p_expressions : []

```
SgNode* p_parent: 0x7f15ed51b010
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb3d680
Sg_File_Info* p_endOfConstruct: 0x7f15edb3d578
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb3d730
```

pointer:0x7f15edd410e0
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 20:20
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e148 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3d8e8 Sg_File_Info* p_endOfConstruct : 0x7f15edb3d940 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3d788 SgVariableSymbol* p_symbol : 0x215c0d0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd41148
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 20:27
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e148 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3d9f0 Sg_File_Info* p_endOfConstruct : 0x7f15edb3da48 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3d838 SgVariableSymbol* p_symbol : 0x215c100 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd411b0
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 21:20
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: LOOP_BODY

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e148 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3daf8 Sg_File_Info* p_endOfConstruct : 0x7f15edb3db50 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3d890 SgVariableSymbol* p_symbol : 0x215c130 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15eda3f010
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3dfc8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e020
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0x1409140
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0x7f15ee318310
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee318070
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : seq_exec
SgClassDeclaration::class_types p_class_type : 1
SgClassType* p_type: 0x7f15ee2d0e10
SgClassDefinition* p_definition: 0x7f15ee23d020
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_from_template: 0
bool p_fixupScope: 0
bool p_isUnNamed: 0
bool p_explicit_annotation_interface: 0
bool p explicit interface: 0
bool p_explicit_enum: 0
bool p_explicit_anonymous: 0
SgExprListExp* p_decoratorList: 0
int p_name_qualification_length: 0
bool p type elaboration required: 0
bool p_global_qualification_required: 0
bool p_isAutonomousDeclaration: 1
bool p isRepresentingTemplateParameterInTemplateDeclaration: 0
```

pointer:0x7f15ee318310 SgClassDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 26:3

Declaration mangled name: RAJA_scope_class_seq_exec

pointer:0x7f15ee23d020 SgClassDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 26:3 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ee318310
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3df70
Sg_File_Info* p_endOfConstruct : 0x7f15edb3df18
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb18d30
SgTypeTable* p_type_table: 0x136fa60
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgDeclarationStatementPtrList p_members : []
SgBaseClassPtrList p_inheritances : []
unsigned int p_packingAlignment: 0
bool p isSequence: 0
bool p_isPrivate: 0
bool p_isAbstract: 0
```

```
Declaration mangled name: L92R__L93R
   Click here to go to the parent node
SqNode* p parent: 0x7f15eda3f010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3fa40
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e078
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0x1b1c0c0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15ed61eca0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed61e870
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name: forall
SgFunctionParameterList* p_parameterList : 0x7f15eeb5b9a0
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SqTypePtrList p exceptionSpecification: []
bool p_named_in_end_statement: 0
std::string p_asm_name :
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type : 0x7f15ef5a4170
SgFunctionDefinition* p_definition: 0x7f15ed589140
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section :
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr : 0
bool p_using_new_function_return_type_syntax : 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgTemplateParameterPtrList p_templateParameters : [0x7f15ed85d0d0]
SgTemplateArgumentPtrList p_templateSpecializationArguments : []
SgName p_string: <too long>: <too long>: template < typename LOOP_BODY >
                                                                               void forall ( seg exec.
bool p string represents function body: 0
```

pointer:0x7f15ed61eca0

IsTransformation:0

SgTemplateFunctionDeclaration

IsOutputInCodeGeneration:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 31:3

pointer:0x7f15eeb5b9a0 SgFunctionParameterList /home/liao6/workspace/github/rose-ast.git/lambda.cxx 32:5 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L93R

```
SgNode* p_parent : 0x7f15ed61eca0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3e968
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e9c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5b9a0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgInitializedNamePtrList p_args: [0x7f15edb76438, 0x7f15edb76580, 0x7f15edb766c8, 0x7f15edb76810]
```

```
pointer:0x7f15edb76438
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 32:19
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15eeb5b9a0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3e548
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e5a0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SaName p name:
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ee2d0e10
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61eca0
SgStorageModifier* p_storageModifier : 0x21a3638
SgScopeStatement* p_scope : 0x7f15ed589140
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
pointer:0x7f15edb76580
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 33:20
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15eeb5b9a0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3e5f8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e650
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: begin
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61eca0
SgStorageModifier* p_storageModifier : 0x21a3660
SgScopeStatement* p_scope : 0x7f15ed589140
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
pointer:0x7f15edb766c8
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 33:38
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15eeb5b9a0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3e6a8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e700
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: end
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61eca0
SgStorageModifier* p_storageModifier : 0x21a3688
SgScopeStatement* p_scope : 0x7f15ed589140
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
pointer:0x7f15edb76810
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 34:19
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15eeb5b9a0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3e758
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e7b0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: loop body
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ed88c150
SgInitializer* p_initptr : 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed61eca0
SgStorageModifier* p_storageModifier : 0x21a36b0
SgScopeStatement* p_scope : 0x7f15ed589140
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed589140 SgTemplateFunctionDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 35:5 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15ed61eca0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3e808
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e860
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table : 0x7f15efb18f90
SgTypeTable* p_type_table: 0x136fab0
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body: 0x7f15ede40358
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede40358 SgBasicBlock /home/liao6/workspace/github/rose-ast.git/lambda.cxx 35:5 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed589140
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3e498
Sg_File_Info* p_endOfConstruct : 0x7f15edb3e4f0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb18e60
SgTypeTable* p_type_table: 0x136fa88
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements: [0x7f15ed4ec070, 0x7f15ed45b010, 0x7f15ed4ec190]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec070 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 36:7 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent: 0x7f15ede40358

bool p_isModified : 0

bool p_containsTransformation: 0

Sg_File_Info* p_startOfConstruct : 0x7f15edb3eb20 Sg_File_Info* p_endOfConstruct : 0x7f15edb3eb78

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edad8060

pointer:0x7f15edad8060 SgNullExpression compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

```
SgNode* p_parent : 0x7f15ed4ec070
bool p_isModified : 0
bool p_containsTransformation : 0
$CLASSNAME* p_freepointer : 0xfffffffffffff
Sg_File_Info* p_startOfConstruct : 0x7f15edb3ea70
Sg_File_Info* p_endOfConstruct : 0x7f15edb3eac8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism : 0
bool p_containsTransformationToSurroundingWhitespace : 0
bool p_need_paren : 0
bool p_lvalue : 0
bool p_global_qualified_name : 0
```

Sg_File_Info* p_operatorPosition: 0x7f15edb3e8b8

pointer:0x7f15ed45b010 SgForStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:7 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

std::string p_string_label:

```
SgNode* p_parent: 0x7f15ede40358
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3fbf8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3fc50
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb190c0
SgTypeTable* p_type_table: 0x136fad8
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgForInitStatement* p_for_init_stmt : 0x7f15ed424080
SgStatement* p_test : 0x7f15ed4ec0d0
SgExpression* p_increment : 0x7f15ed387010
SgStatement* p loop body: 0x7f15ede40470
SgStatement* p_else_body: 0
```

pointer:0x7f15ed424080 SgForInitStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:13 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed45b010

bool p_isModified : 0

bool p_containsTransformation: 0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgStatementPtrList p_init_stmt : [0x7f15ee020420]

```
Click here to go to the parent node
SqNode* p parent: 0x7f15ed424080
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3ed30
Sg_File_Info* p_endOfConstruct : 0x7f15edb3ed88
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee020420
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables: [0x7f15edb76958]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
bool p is thread local: 0
bool p_is_constexpr: 0
```

Declaration mangled name: _variable_declaration__variable_type_L89R_variable_name_L92R__L93R__scope_

SqSS2

scope

pointer:0x7f15ee020420 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:13

```
pointer:0x7f15edb76958
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:13
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15ee020420
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3ecd8
Sg_File_Info* p_endOfConstruct : 0x7f15edb3ec80
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SaName p name : ii
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0x7f15ed3f1010
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf00b18
SgStorageModifier* p_storageModifier : 0x21a36d8
SgScopeStatement* p_scope : 0x7f15ed45b010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 2
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed3f1010 SgAssignInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1

Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgExpression* p_operand_i : 0x7f15edd41218

SgType* p_expression_type: 0

SgNode* p_parent: 0x7f15edb76958 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3ef40 Sg_File_Info* p_endOfConstruct : 0x7f15edb3eee8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3ec28 bool p_is_explicit_cast: 1 bool p_is_braced_initialized: 0

pointer:0x7f15edd41218
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:29
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed3f1010
bool p_isModified: 0
bool p_containsTransformation: 0
\$CLASSNAME* p_freepointer: 0xffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb3ee38
Sg_File_Info* p_endOfConstruct: 0x7f15edb3ee90
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb3ebd0
SgVariableSymbol* p_symbol: 0x215c190

SgExpression* p_originalExpressionTree : 0

int p_name_qualification_length : 0
bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

pointer:0x7f15ed4ec0d0 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:36 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed45b010

bool p_isModified : 0

bool p_containsTransformation: 0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15ed3ba010

pointer:0x7f15ed3ba010 SgLessThanOp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:39 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: bool

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed4ec0d0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3f308
Sg_File_Info* p_endOfConstruct : 0x7f15edb3f360
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition : 0x7f15edb3f0a0
SgExpression* p_lhs_operand_i : 0x7f15edd41280
SgExpression* p_rhs_operand_i : 0x7f15edd412e8
SgType* p_expression_type : 0
```

pointer:0x7f15edd41280 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:36 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed3ba010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3f0f8 Sg_File_Info* p_endOfConstruct : 0x7f15edb3f150 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3ef98 SgVariableSymbol* p_symbol: 0x215c220 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd412e8
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:41
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed3ba010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3f200 Sg_File_Info* p_endOfConstruct : 0x7f15edb3f258 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3ede0 SgVariableSymbol* p_symbol: 0x215c1c0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

SgPlusPlusOp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:46
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed45b010

pointer:0x7f15ed387010

bool p_isModified: 0
bool p_containsTransformation: 0
\$CLASSNAME* p_freepointer: 0xffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb3f5c8
Sg_File_Info* p_endOfConstruct: 0x7f15edb3f620
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb3f1a8
SgExpression* p_operand_i: 0x7f15edd41350
SgType* p_expression_type: 0
SgUnaryOp::Sgop_mode p_mode: 0

pointer:0x7f15edd41350 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:49 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed387010

bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3f4c0 Sg_File_Info* p_endOfConstruct : 0x7f15edb3f518 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 1 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition : 0x7f15edb3f2b0 SgVariableSymbol* p_symbol: 0x215c220 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0 bool p_global_qualification_required: 0

pointer:0x7f15ede40470 SgBasicBlock /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:54 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed45b010
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3f678
Sg_File_Info* p_endOfConstruct : 0x7f15edb3f6d0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table : 0x7f15efb191f0
SgTypeTable* p_type_table: 0x136fb00
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec130]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec130 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:9 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40470

bool p_isModified : 0

bool p_containsTransformation: 0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd7160

pointer:0x7f15edcd7160 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:19 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: UNKNOWN

Click here to go to the parent node

bool p_uses_operator_syntax: 0

SgNode* p_parent : 0x7f15ed4ec130 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3fa98 Sg_File_Info* p_endOfConstruct : 0x7f15edb3faf0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3f830 SgExpression* p_function: 0x7f15edd413b8 SgExprListExp* p_args : 0x7f15edd0e1b0 SgType* p_expression_type : 0x7f15ed88c150

pointer:0x7f15edd413b8
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:9
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: LOOP_BODY

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edcd7160 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3f780 Sg_File_Info* p_endOfConstruct : 0x7f15edb3f7d8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition : 0x7f15edb3f570 SgVariableSymbol* p_symbol: 0x215c1f0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd0e1b0 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

```
SgNode* p_parent: 0x7f15edcd7160
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb3f990
Sg_File_Info* p_endOfConstruct: 0x7f15edb3f9e8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb3f728
SgExpressionPtrList p_expressions: [0x7f15edd41420]
```

pointer:0x7f15edd41420 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:21 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type Click here to go to the parent node

bool p_type_elaboration_required: 0 bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e1b0 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb3f888 Sg_File_Info* p_endOfConstruct : 0x7f15edb3f8e0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb3f468 SgVariableSymbol* p_symbol: 0x215c220 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0

pointer:0x7f15ed4ec190 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 41:7 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40358

bool p_isModified : 0

bool p_containsTransformation: 0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edad80b0

pointer:0x7f15edad80b0 SgNullExpression compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed4ec190
bool p_isModified : 0
bool p_containsTransformation : 0
\$CLASSNAME* p_freepointer : 0xfffffffffffff
Sg_File_Info* p_startOfConstruct : 0x7f15edb3fd00
Sg_File_Info* p_endOfConstruct : 0x7f15edb3fd58
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism : 0
bool p_containsTransformationToSurroundingWhitespace : 0
bool p_need_paren : 0
bool p_lvalue : 0
bool p_global_qualified_name : 0

Sg_File_Info* p_operatorPosition : 0x7f15edb3f938

```
SgTemplateInstantiationFunctionDecl
compilerGenerated 0:0
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L94R
  Click here to go to the parent node
SqNode* p parent: 0x7f15efb61120
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40228
Sg_File_Info* p_endOfConstruct : 0x7f15edb401d0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 1
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0x7f15ed183c70
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed183010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : forall < seq_exec , >
SgFunctionParameterList* p_parameterList: 0x7f15eeb5bbf0
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SqTypePtrList p exceptionSpecification: []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type: 0x7f15ef5a4200
SgFunctionDefinition* p_definition: 0
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypelsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0x7f15ef5a4200
bool p_type_syntax_is_available: 1
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgName p_templateName : forall
SgTemplateFunctionDeclaration* p_templateDeclaration: 0x7f15ed61e010
SgTemplateArgumentPtrList p_templateArguments: [0x7f15ed82a148, 0x7f15ed82a1b0]
bool p nameResetFromMangledForm: 1
```

pointer:0x7f15ed183010

pointer:0x7f15eeb5bbf0 SgFunctionParameterList compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L95R

Click here to go to the parent node

```
SgNode* p_parent : 0x7f15ed183010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb3fe60
Sg_File_Info* p_endOfConstruct : 0x7f15edb3feb8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5bbf0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

SgInitializedNamePtrList p_args: [0x7f15edb76aa0, 0x7f15edb76be8, 0x7f15edb76d30]

pointer:0x7f15edb76aa0 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5bbf0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3ff10
Sg_File_Info* p_endOfConstruct : 0x7f15edb3ff68
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: begin
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183010
SgStorageModifier* p_storageModifier : 0x21a3700
SgScopeStatement* p_scope : 0x7f15eda3f010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb76be8 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5bbf0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb3ffc0
Sg_File_Info* p_endOfConstruct : 0x7f15edb40018
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: end
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183010
SgStorageModifier* p_storageModifier : 0x21a3728
SgScopeStatement* p_scope : 0x7f15eda3f010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb76d30 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5bbf0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb40120
Sg_File_Info* p_endOfConstruct : 0x7f15edb40178
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: loop body
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ee2d0e90
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183010
SgStorageModifier* p_storageModifier : 0x21a3750
SgScopeStatement* p_scope : 0x7f15eda3f010
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 50:1
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: foo_input___Fb_v_Gb___Fe___L86R
  Click here to go to the parent node
SgNode* p_parent : 0x7f15efb61120
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb402d8
Sg_File_Info* p_endOfConstruct : 0x7f15edb40280
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0x1b203f0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15eea17980
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eea175b0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : foo_input
SgFunctionParameterList* p_parameterList : 0x7f15eeb5c090
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SqTypePtrList p exceptionSpecification: []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type: 0x7f15ef58c890
SgFunctionDefinition* p_definition: 0x7f15eddab270
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15efb61120
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
```

pointer:0x7f15eea17980 SgFunctionDeclaration pointer:0x7f15eeb5c090 SgFunctionParameterList /home/liao6/workspace/github/rose-ast.git/lambda.cxx 50:1 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L86R

Click here to go to the parent node

SgInitializedNamePtrList p_args: []

```
SgNode* p_parent : 0x7f15eea17980
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb405f0
Sg_File_Info* p_endOfConstruct : 0x7f15edb40648
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement \\^*\ p\_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5c090
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

pointer:0x7f15eddab270 SgFunctionDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 51:1 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15eea17980
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40490
Sg_File_Info* p_endOfConstruct : 0x7f15edb404e8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19450
SgTypeTable* p_type_table: 0x136fb50
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7f15ede40588
std::map<SgNode*,int> p_scope_number_list : [0x7f15eddab270->1, 0x7f15ede40588->2]
```

pointer:0x7f15ede40588
SgBasicBlock
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 51:1
IsTransformation:0
IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15eddab270

std::string p_asm_function_body :

bool p isModified: 0

```
bool p_containsTransformation: 0

$CLASSNAME* p_freepointer: 0xffffffffffff
$g_File_Info* p_startOfConstruct: 0x7f15edb403e0
$g_File_Info* p_endOfConstruct: 0x7f15edb40438

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

$g_LabelRefExp* p_numeric_label: 0

int p_source_sequence_value: -1

$g_SymbolTable* p_symbol_table: 0x7f15efb19320

$g_TypeTable* p_type_table: 0x136fb28

$std::set<SgSymbol*> p_type_elaboration_list: []

$std::set<SgSymbol*> p_hidden_declaration_list: []

$std::set<SgSymbol*> p_hidden_declaration_list: []

$g_StatementPtrList p_statements: <too long>: <too long>: [0x7f15ee0206b0, 0x7f15ee318af0, 0x7f15ee020bd0, 0x7f15ed4ec1f0, 0x7f15ee020bd0, 0x7f15ee020bd0, 0x7f15ee020bd0, 0x7f15ed4ec1f0, 0x7f15ee020bd0, 0x7f15ee020bd0, 0x7f15ee020bd0, 0x7f15ee020bd0, 0x7f15ed4ec1f0, 0x7f15ee020bd0, 0x7f1
```

```
Click here to go to the parent node
SqNode* p parent: 0x7f15ede40588
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40800
Sg_File_Info* p_endOfConstruct : 0x7f15edb40858
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee0206b0
SgQualifiedNamePtrList p qualifiedNameList : []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables: [0x7f15edb76e78]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
bool p is thread local: 0
bool p_is_constexpr: 0
```

Declaration mangled name: _variable_declaration__variable_type_Ci_variable_name_foo_input___Fb_v_Gb___Fe__L86R__scope

pointer:0x7f15ee0206b0 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 52:3

```
pointer:0x7f15edb76e78
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 52:3
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15ee0206b0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb407a8
Sg_File_Info* p_endOfConstruct : 0x7f15edb40750
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: n
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ef2c9f50
SgInitializer* p initptr: 0x7f15ed3f1078
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf00d60
SgStorageModifier* p_storageModifier : 0x21a3778
SgScopeStatement* p_scope : 0x7f15ede40588
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 2
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed3f1078 SgAssignInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

SgType* p_expression_type: 0

```
SgNode* p_parent : 0x7f15edb76e78
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40a10
Sg_File_Info* p_endOfConstruct : 0x7f15edb409b8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb406f8
bool p_is_explicit_cast: 1
bool p_is_braced_initialized: 0
SgExpression* p_operand_i: 0x7f15ee1d5f18
```

pointer:0x7f15ee1d5f18 SgIntVal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 52:17 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

std::string p_valueString: 15

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15ede40588
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40c20
Sg_File_Info* p_endOfConstruct : 0x7f15edb40c78
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15ee318af0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee318850
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name: ManagedArray
SgClassDeclaration::class_types p_class_type : 1
SgClassType* p_type: 0x7f15ee2d0f10
SgClassDefinition* p_definition: 0x7f15ee23d150
SgScopeStatement* p_scope : 0x7f15ede40588
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_from_template: 0
bool p_fixupScope: 0
bool p_isUnNamed: 0
bool p_explicit_annotation_interface: 0
bool p_explicit_interface: 0
bool p_explicit_enum: 0
bool p_explicit_anonymous: 0
SgExprListExp* p_decoratorList: 0
int p_name_qualification_length: 0
bool p type elaboration required: 0
bool p_global_qualification_required: 0
```

pointer:0x7f15ee318af0 SgClassDeclaration

IsOutputInCodeGeneration:0
Declaration mangled name: L87R

bool p_isAutonomousDeclaration: 1

bool p isRepresentingTemplateParameterInTemplateDeclaration: 0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 54:3

pointer:0x7f15ee23d150 SgClassDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 54:3 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15ee318af0
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb40d28
Sg_File_Info* p_endOfConstruct : 0x7f15edb40cd0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19580
SgTypeTable* p_type_table: 0x136fb78
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgDeclarationStatementPtrList p_members : [0x7f15ee020940]
SgBaseClassPtrList p_inheritances : []
unsigned int p_packingAlignment: 0
bool p isSequence: 0
bool p_isPrivate: 0
bool p_isAbstract: 0
```

```
Click here to go to the parent node
SqNode* p parent: 0x7f15ee23d150
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40e30
Sg_File_Info* p_endOfConstruct : 0x7f15edb40e88
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee020940
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables : [0x7f15edb76fc0]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
bool p is thread local: 0
bool p_is_constexpr: 0
```

Declaration mangled name: L87R_variable_declaration_variable_type_i_variable_name_L87R_scope_m1

pointer:0x7f15ee020940 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 55:5

```
pointer:0x7f15edb76fc0
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 55:5
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15ee020940
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb40dd8
Sg_File_Info* p_endOfConstruct : 0x7f15edb40d80
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: m1
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef6a1010
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf00fa8
SgStorageModifier* p_storageModifier : 0x21a37a0
SgScopeStatement* p_scope : 0x7f15ee23d150
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p_gnu_attribute_named_weak_reference :
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

```
Click here to go to the parent node
SqNode* p parent: 0x7f15ede40588
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41040
Sg_File_Info* p_endOfConstruct : 0x7f15edb41098
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee020bd0
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables: [0x7f15edb77108]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
bool p is thread local: 0
bool p_is_constexpr: 0
```

Declaration mangled name: _variable_declaration__variable_type_L87R_variable_name_foo_input___Fb_v_Gb__Fe__L86R__scope_

pointer:0x7f15ee020bd0 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 58:3

```
pointer:0x7f15edb77108
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 58:3
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15ee020bd0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb40fe8
Sg_File_Info* p_endOfConstruct : 0x7f15edb40f90
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: ma
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ee2d0f10
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf011f0
SgStorageModifier* p_storageModifier : 0x21a37c8
SgScopeStatement* p_scope : 0x7f15ede40588
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p_gnu_attribute_named_weak_reference :
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 2
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed4ec1f0 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:3 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40588

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb41618 Sg_File_Info* p_endOfConstruct : 0x7f15edb41670

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15ed115010

pointer:0x7f15ed115010 SgAssignOp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:9 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed4ec1f0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41568
Sg_File_Info* p_endOfConstruct : 0x7f15edb415c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb41460
SgExpression* p_lhs_operand_i : 0x7f15ed14c010
SgExpression* p_rhs_operand_i : 0x7f15ee1d5f80
SgType* p_expression_type : 0
```

pointer:0x7f15ed14c010 SgDotExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:5 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed115010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41358
Sg_File_Info* p_endOfConstruct : 0x7f15edb413b0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 1
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb410f0
SgExpression* p_lhs_operand_i: 0x7f15edd41488
SgExpression* p_rhs_operand_i : 0x7f15edd414f0
SgType* p_expression_type : 0
```

pointer:0x7f15edd41488 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:3 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: struct ManagedArray

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed14c010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb41148 Sg_File_Info* p_endOfConstruct : 0x7f15edb411a0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb40ee0 SgVariableSymbol* p_symbol : 0x215c2b0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd414f0 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:6 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed14c010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb41250 Sg_File_Info* p_endOfConstruct : 0x7f15edb412a8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb40f38 SgVariableSymbol* p_symbol : 0x215c280 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15ee1d5f80 SgIntVal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 59:11 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

std::string p_valueString: 100

```
Click here to go to the parent node
SqNode* p parent: 0x7f15ede40588
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41828
Sg_File_Info* p_endOfConstruct : 0x7f15edb41880
AttachedPreprocessingInfoType* p attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee020e60
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables: [0x7f15edb77250]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
bool p is thread local: 0
bool p_is_constexpr: 0
```

Declaration mangled name: _variable_declaration__variable_type___Pb__d__Pe___variable_name_foo_input___Fb_v_Gb___Fe_

pointer:0x7f15ee020e60 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 61:3

```
pointer:0x7f15edb77250
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 61:3
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7f15ee020e60
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb417d0
Sg_File_Info* p_endOfConstruct : 0x7f15edb41778
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: a
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef372268
SgInitializer* p initptr: 0x7f15ed3f10e0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf01438
SgStorageModifier* p_storageModifier: 0x21a37f0
SgScopeStatement* p_scope : 0x7f15ede40588
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 2
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed3f10e0 SgAssignInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: double(*)[15]

SgType* p_expression_type: 0

```
SgNode* p_parent: 0x7f15edb77250
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41d50
Sg_File_Info* p_endOfConstruct : 0x7f15edb41cf8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb41ae8
bool p_is_explicit_cast: 1
bool p_is_braced_initialized: 0
SgExpression* p_operand_i : 0x7f15ed0d2010
```

pointer:0x7f15ed0d2010
SgNewExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 61:15
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: double(*)[15]

Click here to go to the parent node

bool p_global_qualification_required: 0

```
SgNode* p_parent : 0x7f15ed3f10e0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41c48
Sg_File_Info* p_endOfConstruct : 0x7f15edb41ca0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb41a38
SgType* p_specified_type : 0x7f15ee153f40
SgExprListExp* p_placement_args: 0
SgConstructorInitializer* p_constructor_args : 0x7f15ed51b090
SgExpression* p_builtin_args: 0
short p_need_global_specifier: 0
SgFunctionDeclaration* p_newOperatorDeclaration: 0
int p_name_qualification_length: 0
bool p_type_elaboration_required: 0
```

pointer:0x7f15ed51b090 SgConstructorInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: double [15]

Click here to go to the parent node

bool p_global_qualification_required: 0

```
SgNode* p_parent : 0x7f15ed0d2010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41b40
Sg_File_Info* p_endOfConstruct : 0x7f15edb41b98
AttachedPreprocessingInfoType* p attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 1
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb41720
bool p_is_explicit_cast: 1
bool p_is_braced_initialized: 0
SgMemberFunctionDeclaration* p_declaration: 0
SgExprListExp* p_args: 0x7f15edd0e218
SgType* p_expression_type : 0x7f15ee153f40
bool p need name: 0
bool p_need_qualifier: 0
bool p_need_parenthesis_after_name: 0
bool p associated class unknown: 1
int p_name_qualification_length: 0
bool p_type_elaboration_required: 0
```

pointer:0x7f15edd0e218 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgExpressionPtrList p_expressions : []

```
SgNode* p_parent: 0x7f15ed51b090
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb419e0
Sg_File_Info* p_endOfConstruct: 0x7f15edb418d8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb41a90
```

pointer:0x7f15ed4ec2b0 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:3 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40588

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb44798 Sg_File_Info* p_endOfConstruct : 0x7f15edb447f0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd71d0

pointer:0x7f15edcd71d0 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:41 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

bool p_uses_operator_syntax: 0

SgNode* p_parent : 0x7f15ed4ec2b0 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb446e8 Sg_File_Info* p_endOfConstruct : 0x7f15edb44740 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb42e80 SgExpression* p_function: 0x7f15edd740f0 SgExprListExp* p_args : 0x7f15edd0e280 SgType* p_expression_type : 0x7f15ef5a4200

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15edcd71d0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41e58
Sg_File_Info* p_endOfConstruct : 0x7f15edb41eb0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition : 0x7f15edb41bf0
SqFunctionSymbol* p_symbol_i : 0x201caa0
SgFunctionType* p_function_type: 0
SgExpression* p_originalExpressionTree : 0
int p_name_qualification_length: 0
bool p_type_elaboration_required: 0
```

Expression type: void(::RAJA::Index_type, ::RAJA::Index_type, class)

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:3

pointer:0x7f15edd740f0 SgFunctionRefExp

IsOutputInCodeGeneration:0

bool p_global_qualification_required: 0

IsTransformation:0

pointer:0x7f15edd0e280 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

```
SgNode* p_parent: 0x7f15edcd71d0
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb445e0
Sg_File_Info* p_endOfConstruct: 0x7f15edb44638
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb444d8
```

SgExpressionPtrList p_expressions: [0x7f15ee1d6050, 0x7f15edd41558, 0x7f15ecb8d010]

pointer:0x7f15ee1d6050 SgIntVal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:42 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

```
SgNode* p_parent: 0x7f15edd0e280
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb41f08
Sg_File_Info* p_endOfConstruct : 0x7f15edb41e00
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition : 0x7f15edb41fb8
SgExpression* p_originalExpressionTree : 0
int p_value: 0
std::string p_valueString: 0
```

pointer:0x7f15edd41558
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:44
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: const int

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e280 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb42170 Sg_File_Info* p_endOfConstruct : 0x7f15edb421c8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb41da8 SgVariableSymbol* p_symbol : 0x215c250 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15ecb8d010 SgLambdaExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:47 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

bool p_is_device: 0

```
SgNode* p_parent : 0x7f15edd0e280
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44480
Sg_File_Info* p_endOfConstruct : 0x7f15edb442c8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb44530
SgLambdaCaptureList* p_lambda_capture_list: 0x7f15ed0a3010
SgClassDeclaration* p_lambda_closure_class : 0x7f15ee3185b0
SgFunctionDeclaration* p_lambda_function : 0x7f15ecded3f0
bool p_is_mutable: 0
bool p_capture_default: 1
bool p default is by reference: 0
bool p_explicit_return_type: 0
bool p_has_parameter_decl: 1
```

pointer:0x7f15ed0a3010 SgLambdaCaptureList /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:47 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ecb8d010

bool p_isModified : 0

bool p_containsTransformation: 0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

 $\color{red} \textbf{bool} \ p_contains Transformation To Surrounding White space: \textbf{0}$

SgLambdaCapturePtrList p_capture_list: [0x7f15ed070010, 0x7f15ed070078]

pointer:0x7f15ed070010 SgLambdaCapture /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:7 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

bool p_pack_expansion: 0

pointer:0x7f15edd415c0 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 61:3 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double *

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed070010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb42328 Sg_File_Info* p_endOfConstruct : 0x7f15edb42380 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb41f60 SgVariableSymbol* p_symbol : 0x215c2e0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd41628 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:7 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double *

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed070010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb42850 Sg_File_Info* p_endOfConstruct : 0x7f15edb428a8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb425e8 SgVariableSymbol* p_symbol : 0x215c310 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15ed070078 SgLambdaCapture /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:20 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15ed0a3010
bool p_isModified : 0
bool p_containsTransformation : 0
$CLASSNAME* p_freepointer : 0xfffffffffffff
$g_File_Info* p_startOfConstruct : 0x7f15edb42dd0
$g_File_Info* p_endOfConstruct : 0x7f15edb42e28
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism : 0
bool p_containsTransformationToSurroundingWhitespace : 0
$gExpression* p_capture_variable : 0x7f15edd41690
$gExpression* p_source_closure_variable : 0
$gExpression* p_closure_variable : 0x7f15edd416f8
bool p_capture_by_reference : 0
bool p_implicit : 1
bool p_pack_expansion : 0
```

pointer:0x7f15edd41690 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 58:3 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: struct ManagedArray

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed070078 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb42a08 Sg_File_Info* p_endOfConstruct : 0x7f15edb42a60 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb427f8 SgVariableSymbol* p_symbol : 0x215c2b0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd416f8
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:20
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: struct ManagedArray

Click here to go to the parent node

bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

SgNode* p_parent : 0x7f15ed070078 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb42d20 Sg_File_Info* p_endOfConstruct : 0x7f15edb42d78 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb42ab8 SgVariableSymbol* p_symbol : 0x215c340 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15ecb8d010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb40070
Sg_File_Info* p_endOfConstruct : 0x7f15edb400c8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 1
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee3185b0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : __anonymous_0x1f4dc80
SgClassDeclaration::class_types p_class_type: 0
SgClassType* p_type: 0x7f15ee2d0e90
SgClassDefinition* p_definition: 0
SgScopeStatement* p_scope : 0x7f15efb61120
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_from_template: 0
bool p_fixupScope: 0
bool p_isUnNamed: 1
bool p_explicit_annotation_interface: 0
bool p_explicit_interface: 0
bool p_explicit_enum: 0
bool p_explicit_anonymous: 0
SgExprListExp* p_decoratorList: 0
int p_name_qualification_length: 0
bool p type elaboration required: 0
bool p_global_qualification_required: 0
bool p_isAutonomousDeclaration: 1
bool p isRepresentingTemplateParameterInTemplateDeclaration: 0
```

pointer:0x7f15ee3185b0 SgClassDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:47

Declaration mangled name: class___anonymous_0x1f4dc80

```
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L96R__L97R
   Click here to go to the parent node
SqNode* p parent: 0x7f15ecb8d010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb441c0
Sg_File_Info* p_endOfConstruct : 0x7f15edb42ed8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0x7f15ecded3f0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ecded010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : operator()
SgFunctionParameterList* p_parameterList : 0x7f15eeb5c530
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SqTypePtrList p exceptionSpecification: []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type: 0x7f15ecfd20b0
SgFunctionDefinition* p_definition: 0x7f15eddab3a0
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15ee23d280
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgCtorInitializerList* p_CtorInitializerList: 0x7f15ecccb260
SgClassDeclaration* p_associatedClassDeclaration: 0x7f15ee319030
```

pointer:0x7f15ecded3f0

SgMemberFunctionDeclaration

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:51

pointer:0x7f15eeb5c530 SgFunctionParameterList /home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:51 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L97R

Click here to go to the parent node

SgInitializedNamePtrList p_args : [0x7f15edb77770]

```
SgNode* p_parent : 0x7f15ecded3f0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb434b0
Sg_File_Info* p_endOfConstruct : 0x7f15edb43508
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration : 0
SgDeclarationStatement* p_firstNondefiningDeclaration : 0x7f15eeb5c530
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

```
pointer:0x7f15edb77770
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 63:56
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7f15eeb5c530
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb431f0
Sg_File_Info* p_endOfConstruct : 0x7f15edb43248
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: i
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef6a1010
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ecded3f0
SgStorageModifier* p_storageModifier : 0x21a3890
SgScopeStatement* p_scope : 0x7f15eddab3a0
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p_shapeDeferred: 0
bool p_initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p_gnu_attribute_named_weak_reference :
std::string p_gnu_attribute_named_alias :
std::string p_gnu_attribute_cleanup_function :
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment: -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p_hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15eddab3a0 SgFunctionDefinition /home/liao6/workspace/github/rose-ast.git/lambda.cxx 64:7 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15ecded3f0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb432a0
Sg_File_Info* p_endOfConstruct : 0x7f15edb432f8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table : 0x7f15efb19910
SgTypeTable* p_type_table : 0x136fbf0
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7f15ede406a0
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede406a0 SgBasicBlock /home/liao6/workspace/github/rose-ast.git/lambda.cxx 64:7 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15eddab3a0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb43140
Sg_File_Info* p_endOfConstruct : 0x7f15edb43198
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table : 0x7f15efb197e0
SgTypeTable* p_type_table : 0x136fbc8
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec250]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec250 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:7 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede406a0

bool p_isModified : 0

bool p_containsTransformation : 0

Sg_File_Info* p_startOfConstruct : 0x7f15edb443d0 Sg_File_Info* p_endOfConstruct : 0x7f15edb44428

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15ed115080

pointer:0x7f15ed115080 SgAssignOp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:12 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed4ec250
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44320
Sg_File_Info* p_endOfConstruct : 0x7f15edb44378
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb440b8
SgExpression* p_lhs_operand_i : 0x7f15ecc2e010
SgExpression* p_rhs_operand_i : 0x7f15ecbc4010
SgType* p_expression_type : 0
```

pointer:0x7f15ecc2e010 SgPntrArrRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:8 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed115080
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb439d8
Sg_File_Info* p_endOfConstruct : 0x7f15edb43a30
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 1
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43770
SgExpression* p_lhs_operand_i : 0x7f15ecc65010
SgExpression* p_rhs_operand_i : 0x7f15edd417c8
SgType* p_expression_type : 0
```

pointer:0x7f15ecc65010 SgArrowExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: double *

```
SgNode* p_parent : 0x7f15ecc2e010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb437c8
Sg_File_Info* p_endOfConstruct : 0x7f15edb43820
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43560
SgExpression* p_lhs_operand_i : 0x7f15ecc9c010
SgExpression* p_rhs_operand_i : 0x7f15edd41760
SgType* p_expression_type : 0
SgExpression* p_originalExpressionTree : 0
```

pointer:0x7f15ecc9c010 SgThisExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: class *

pointer:0x7f15edd41760 SgVarRefExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: double *

```
SgNode* p_parent : 0x7f15ecc65010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb436c0
Sg_File_Info* p_endOfConstruct : 0x7f15edb43718
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb433a8
SgVariableSymbol* p_symbol: 0x215c310
SgExpression* p_originalExpressionTree : 0
int p_name_qualification_length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
```

pointer:0x7f15edd417c8
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:9
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: int

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ecc2e010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb438d0 Sg_File_Info* p_endOfConstruct : 0x7f15edb43928 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb43668 SgVariableSymbol* p_symbol : 0x215c370 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15ecbc4010 SgAddOp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:18 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed115080
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44218
Sg_File_Info* p_endOfConstruct : 0x7f15edb44270
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43fb0
SgExpression* p_lhs_operand_i : 0x7f15ecbfb010
SgExpression* p_rhs_operand_i : 0x7f15ee19ae20
SgType* p_expression_type : 0
```

pointer:0x7f15ecbfb010 SgDoubleVal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:14 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double

Click here to go to the parent node

SgNode* p_parent : 0x7f15ecbc4010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb43a88 Sg_File_Info* p_endOfConstruct : 0x7f15edb43980 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb43b38 SgExpression* p_originalExpressionTree : 0 double p_value : 0.5 std::string p_valueString: 0.5

pointer:0x7f15ee19ae20 SgCastExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: double

Click here to go to the parent node

SgNode* p_parent : 0x7f15ecbc4010

```
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44110
Sg_File_Info* p_endOfConstruct : 0x7f15edb44168
AttachedPreprocessingInfoType* p attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren : 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43ea8
SgExpression* p_operand_i: 0x7f15ed14c080
SgType* p_expression_type : 0x7f15ef258010
SgUnaryOp::Sgop_mode p_mode: 0
SgCastExp::cast_type_enum p_cast_type : 2
SgExpression* p_originalExpressionTree: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_castContainsBaseTypeDefiningDeclaration: 0
```

pointer:0x7f15ed14c080 SgDotExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:22 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ee19ae20
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44008
Sg_File_Info* p_endOfConstruct : 0x7f15edb44060
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43da0
SgExpression* p_lhs_operand_i : 0x7f15ecc65080
SgExpression* p_rhs_operand_i: 0x7f15edd41898
SgType* p_expression_type : 0
```

pointer:0x7f15ecc65080 SgArrowExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1

Expression type: struct ManagedArray

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed14c080 bool p_isModified: 0 bool p_containsTransformation: 0

Sg_File_Info* p_startOfConstruct : 0x7f15edb43df8 Sg_File_Info* p_endOfConstruct : 0x7f15edb43e50

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p containsTransformationToSurroundingWhitespace: 0

bool p_need_paren: 0 bool p_lvalue: 0

bool p_global_qualified_name: 0

Sg_File_Info* p_operatorPosition: 0x7f15edb43b90 SgExpression* p_lhs_operand_i : 0x7f15ecc9c070 SgExpression* p_rhs_operand_i: 0x7f15edd41830

SgType* p_expression_type : 0

SgExpression* p_originalExpressionTree : 0

pointer:0x7f15ecc9c070 SgThisExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: class *

```
SgNode* p_parent: 0x7f15ecc65080
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb43be8
Sg_File_Info* p_endOfConstruct: 0x7f15edb43c40
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb43ae0
SgClassSymbol* p_class_symbol: 0x2143860
int p_pobj_this: 0
```

pointer:0x7f15edd41830 SgVarRefExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1

Expression type: struct ManagedArray

Click here to go to the parent node

SgNode* p_parent : 0x7f15ecc65080 bool p_isModified: 0 bool p_containsTransformation: 0

Sg_File_Info* p_startOfConstruct : 0x7f15edb43cf0 Sg_File_Info* p_endOfConstruct : 0x7f15edb43d48

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p containsTransformationToSurroundingWhitespace: 0

bool p_need_paren: 0 bool p_lvalue: 0

bool p_global_qualified_name: 0

Sg_File_Info* p_operatorPosition: 0x7f15edb43878

SgVariableSymbol* p_symbol : 0x215c340 SgExpression* p_originalExpressionTree : 0

int p_name_qualification_length: 0 bool p_type_elaboration_required: 0 bool p_global_qualification_required: 0 pointer:0x7f15edd41898
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 65:23
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: int

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed14c080 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb43f00 Sg_File_Info* p_endOfConstruct : 0x7f15edb43f58 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb43c98 SgVariableSymbol* p_symbol: 0x215c280 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15ecded3f0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb43400
Sg_File_Info* p_endOfConstruct : 0x7f15edb43458
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15ecccb260
```

pointer:0x7f15ecccb260 SgCtorInitializerList NULL_FILE 0:0 IsTransformation:0

IsOutputInCodeGeneration:1

Declaration mangled name: L88R_constructor_initialization_list_

SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ecccb260

SgQualifiedNamePtrList p_qualifiedNameList : []

std::string p_binding_label :

SgInitializedNamePtrList p_ctors : []

pointer:0x7f15ed4ec310 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 69:3 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40588

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb44d70 Sg_File_Info* p_endOfConstruct : 0x7f15edb44dc8

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd7240

pointer:0x7f15edcd7240 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 69:7 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

bool p_uses_operator_syntax: 0

```
SgNode* p_parent : 0x7f15ed4ec310
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44cc0
Sg_File_Info* p_endOfConstruct : 0x7f15edb44d18
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb44a58
SgExpression* p_function: 0x7f15edd74160
SgExprListExp* p_args: 0x7f15edd0e2e8
SgType* p_expression_type : 0x7f15ef58cb60
```

pointer:0x7f15edd74160 SgFunctionRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 69:3 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void(void *)

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edcd7240 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb448a0 Sg_File_Info* p_endOfConstruct : 0x7f15edb448f8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren : 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb44690 SgFunctionSymbol* p_symbol_i : 0x201be40 SgFunctionType* p_function_type: 0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd0e2e8 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgNode* p_parent: 0x7f15edcd7240
bool p_isModified: 0
bool p_containsTransformation: 0
\$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb44bb8
Sg_File_Info* p_endOfConstruct: 0x7f15edb44c10
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb44950

SgExpressionPtrList p_expressions : [0x7f15ee19ae98]

pointer:0x7f15ee19ae98 SgCastExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: void *

Click here to go to the parent node

```
SgNode* p_parent : 0x7f15edd0e2e8
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44ab0
Sg_File_Info* p_endOfConstruct : 0x7f15edb44b08
AttachedPreprocessingInfoType* p attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren : 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb44848
SgExpression* p_operand_i : 0x7f15edd41900
SgType* p_expression_type : 0x7f15ef3723d0
SgUnaryOp::Sgop_mode p_mode: 0
SgCastExp::cast_type_enum p_cast_type : 2
SgExpression* p_originalExpressionTree: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
```

bool p_castContainsBaseTypeDefiningDeclaration: 0

pointer:0x7f15edd41900 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 69:8 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: double *

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ee19ae98 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb449a8 Sg_File_Info* p_endOfConstruct : 0x7f15edb44a00 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb44588 SgVariableSymbol* p_symbol : 0x215c2e0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

```
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 72:1
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: main_0x7f15eea18120
  Click here to go to the parent node
SgNode* p_parent : 0x7f15efb61120
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44e78
Sg_File_Info* p_endOfConstruct : 0x7f15edb44e20
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15eea18120
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eea17d50
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name: main
SgFunctionParameterList* p_parameterList : 0x7f15eeb5c9d0
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SgTypePtrList p_exceptionSpecification : []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type : 0x7f15ef58a1c0
SgFunctionDefinition* p_definition: 0x7f15eddab4d0
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15efb61120
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type: 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
```

pointer:0x7f15eea18120 SgFunctionDeclaration pointer:0x7f15eeb5c9d0
SgFunctionParameterList
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 72:1
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L86R

Click here to go to the parent node

SgInitializedNamePtrList p_args: []

```
SgNode* p_parent : 0x7f15eea18120
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb45190
Sg_File_Info* p_endOfConstruct : 0x7f15edb451e8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement \\^*\ p\_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5c9d0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label :
```

pointer:0x7f15eddab4d0
SgFunctionDefinition
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 73:1
IsTransformation:0
IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15eea18120
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb45030
Sg_File_Info* p_endOfConstruct : 0x7f15edb45088
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19b70
SgTypeTable* p_type_table : 0x136fc40
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7f15ede407b8
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede407b8
SgBasicBlock
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 73:1
IsTransformation:0
IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15eddab4d0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb44f80
Sg_File_Info* p_endOfConstruct : 0x7f15edb44fd8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19a40
SgTypeTable* p_type_table : 0x136fc18
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec370, 0x7f15edca80d0]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec370 SgExprStatement /home/liao6/workspace/github/rose-ast.git/lambda.cxx 74:3 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede407b8

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb45558 Sg_File_Info* p_endOfConstruct : 0x7f15edb455b0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd72b0

pointer:0x7f15edcd72b0 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 74:12 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

bool p_uses_operator_syntax: 0

SgNode* p_parent : 0x7f15ed4ec370 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb454a8 Sg_File_Info* p_endOfConstruct : 0x7f15edb45500 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb45240 SgExpression* p_function: 0x7f15edd741d0 SgExprListExp* p_args : 0x7f15edd0e350 SgType* p_expression_type : 0x7f15ef58c890

pointer:0x7f15edd741d0 SgFunctionRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 74:3 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void()

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edcd72b0 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb45298 Sg_File_Info* p_endOfConstruct : 0x7f15edb452f0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren : 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb450e0 SgFunctionSymbol* p_symbol_i : 0x201cad0 SgFunctionType* p_function_type: 0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd0e350 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgExpressionPtrList p_expressions : []

```
SgNode* p_parent: 0x7f15edcd72b0
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb453a0
Sg_File_Info* p_endOfConstruct: 0x7f15edb453f8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb45138
```

pointer:0x7f15edca80d0 SgReturnStmt /home/liao6/workspace/github/rose-ast.git/lambda.cxx 75:3 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede407b8

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb45710 Sg_File_Info* p_endOfConstruct : 0x7f15edb45768

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15ee1d6120

pointer:0x7f15ee1d6120 SgIntVal /home/liao6/workspace/github/rose-ast.git/lambda.cxx 75:10 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

SgNode* p_parent : 0x7f15edca80d0 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb45608 Sg_File_Info* p_endOfConstruct : 0x7f15edb45348 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p_containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb456b8 SgExpression* p_originalExpressionTree : 0 int p_value: 0 std::string p_valueString: 0

```
SgTemplateInstantiationFunctionDecl
compilerGenerated 0:0
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L98R
   Click here to go to the parent node
SqNode* p parent: 0x7f15efb61120
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb45818
Sg_File_Info* p_endOfConstruct : 0x7f15edb457c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0x7f15ed183850
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed183430
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : forall < >
SgFunctionParameterList* p_parameterList : 0x7f15eeb5ce70
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SgTypePtrList p_exceptionSpecification : []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type : 0x7f15ef5a4290
SgFunctionDefinition* p_definition: 0x7f15eddab600
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgName p_templateName : forall
SgTemplateFunctionDeclaration* p_templateDeclaration: 0x7f15ed61e870
SgTemplateArgumentPtrList p_templateArguments : [0x7f15ed82a218]
bool p nameResetFromMangledForm: 1
```

pointer:0x7f15ed183850

pointer:0x7f15eeb5ce70 SgFunctionParameterList compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L99R

```
SgNode* p_parent : 0x7f15ed183850
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb460b0
Sg_File_Info* p_endOfConstruct : 0x7f15edb46108
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5ce70
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label :
SgInitializedNamePtrList p_args : [0x7f15edb77dd8, 0x7f15edb77f20, 0x7f15edb78068, 0x7f15edb781b0]
```

pointer:0x7f15edb77dd8 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5ce70
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb45c90
Sg_File_Info* p_endOfConstruct : 0x7f15edb45ce8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SaName p name:
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ee2d0e10
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183850
SgStorageModifier* p_storageModifier : 0x21a3958
SgScopeStatement* p_scope : 0x7f15eddab600
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb77f20 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5ce70
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb45d40
Sg_File_Info* p_endOfConstruct : 0x7f15edb45d98
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: begin
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183850
SgStorageModifier* p_storageModifier : 0x21a3980
SgScopeStatement* p_scope : 0x7f15eddab600
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb78068 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5ce70
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb45df0
Sg_File_Info* p_endOfConstruct : 0x7f15edb45e48
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: end
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183850
SgStorageModifier* p_storageModifier : 0x21a39a8
SgScopeStatement* p_scope : 0x7f15eddab600
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb781b0 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5ce70
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb45ea0
Sg_File_Info* p_endOfConstruct : 0x7f15edb45ef8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: loop body
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ee2d0e90
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183850
SgStorageModifier* p_storageModifier : 0x21a39d0
SgScopeStatement* p_scope : 0x7f15eddab600
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15eddab600 SgFunctionDefinition compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed183850
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb45f50
Sg_File_Info* p_endOfConstruct : 0x7f15edb45fa8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19dd0
SgTypeTable* p_type_table : 0x136fc90
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body: 0x7f15ede408d0
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede408d0 SgBasicBlock compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15eddab600

```
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb45be0
Sg_File_Info* p_endOfConstruct : 0x7f15edb45c38
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb19ca0
SgTypeTable* p_type_table : 0x136fc68
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements: [0x7f15ed4ec3d0, 0x7f15eca4f010, 0x7f15ed45b138, 0x7f15ed4ec4f0]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec3d0 SgExprStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede408d0

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb46268 Sg_File_Info* p_endOfConstruct : 0x7f15edb462c0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

 ${\color{red}\textbf{bool}}\ p_contains Transformation To Surrounding White space: \textbf{0}$

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edad8100

pointer:0x7f15edad8100 SgNullExpression compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

Sg_File_Info* p_operatorPosition: 0x7f15edb46000

pointer:0x7f15eca4f010
SgPragmaDeclaration
compilerGenerated 0:0
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: pragma_statement

Click here to go to the parent node

SgPragma* p_pragma: 0x7f15ecb69010

```
SgNode* p_parent : 0x7f15ede408d0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb463c8
Sg_File_Info* p_endOfConstruct : 0x7f15edb46420
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0x7f15eca4f010
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eca4f010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

pointer:0x7f15ecb69010 SgPragma

Click here to go to the parent node

SgNode* p_parent : 0x7f15eca4f010

bool p_isModified : 0

bool p_containsTransformation : 0

\$CLASSNAME* p_freepointer : 0xffffffffffff

std::string p_name : novector

Sg_File_Info* p_startOfConstruct : 0x7f15edb46058 Sg_File_Info* p_endOfConstruct : 0x7f15edb46160 short p_printed : 0

AstAttributeMechanism* p_attributeMechanism: 0

pointer:0x7f15ed45b138 SgForStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

std::string p_string_label:

```
SgNode* p_parent : 0x7f15ede408d0
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb476b0
Sg_File_Info* p_endOfConstruct : 0x7f15edb47708
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table : 0x7f15efb19f00
SgTypeTable* p_type_table : 0x136fcb8
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgForInitStatement* p_for_init_stmt : 0x7f15ed4240f0
SgStatement* p_test : 0x7f15ed4ec430
SgExpression* p_increment : 0x7f15ed387078
SgStatement* p loop body: 0x7f15ede409e8
SgStatement* p_else_body: 0
```

pointer:0x7f15ed4240f0 SgForInitStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed45b138

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb46898 Sg_File_Info* p_endOfConstruct : 0x7f15edb468f0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

 ${\color{red}\textbf{bool}}\ p_contains Transformation To Surrounding White space: \textbf{0}$

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgStatementPtrList p_init_stmt : [0x7f15ee021610]

```
SgSS2
                                                                                                                           SgSS
Declaration mangled name: _variable_declaration _variable_type_L89R_variable_name_L98R__scope_
                                                                                                                 scope
  Click here to go to the parent node
SqNode* p parent: 0x7f15ed4240f0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb465d8
Sg_File_Info* p_endOfConstruct : 0x7f15edb46630
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p decl attributes: 0
std::string p_linkage:
SqDeclarationModifier p_declarationModifier : <too long>: <too long>: SqDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 1
bool p_forward: 0
bool p externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ee021610
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables : [0x7f15edb782f8]
bool p_variableDeclarationContainsBaseTypeDefiningDeclaration: 0
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresGlobalNameQualificationOnType: 0
std::string p_gnu_extension_section:
std::string p_gnu_extension_alias :
unsigned short p gnu extension initialization priority: 0
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 0
SgVariableDeclaration::gnu_extension_declaration_attributes_enum p_gnu_extension_declaration_attribute: 0
int p name qualification length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
bool p_isAssociatedWithDeclarationList: 0
bool p_isFirstDeclarationOfDeclarationList: 1
```

pointer:0x7f15ee021610 SgVariableDeclaration compilerGenerated 0:0 IsTransformation:0

IsOutputInCodeGeneration:0

bool p_is_thread_local : 0 bool p_is_constexpr : 0

pointer:0x7f15edb782f8 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p parent: 0x7f15ee021610
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb46580
Sg_File_Info* p_endOfConstruct : 0x7f15edb46528
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SaName p name : ii
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0x7f15ed3f1148
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15edf01b10
SgStorageModifier* p_storageModifier: 0x21a39f8
SgScopeStatement* p_scope : 0x7f15ed45b138
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p gnu attribute initialization priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 2
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15ed3f1148 SgAssignInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1

Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgExpression* p_operand_i : 0x7f15edd41968

SgType* p_expression_type: 0

SgNode* p_parent : 0x7f15edb782f8 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb467e8 Sg_File_Info* p_endOfConstruct : 0x7f15edb46790 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb464d0 bool p_is_explicit_cast: 1 bool p_is_braced_initialized: 0

SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:29
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

pointer:0x7f15edd41968

SgNode* p_parent : 0x7f15ed3f1148

bool p_global_qualification_required: 0

bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb466e0 Sg_File_Info* p_endOfConstruct : 0x7f15edb46738 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb46478 SgVariableSymbol* p_symbol : 0x215c3d0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15ed4ec430 SgExprStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed45b138

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb46c60 Sg_File_Info* p_endOfConstruct : 0x7f15edb46cb8

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15ed3ba080

pointer:0x7f15ed3ba080 SgLessThanOp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:39 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: bool

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7f15ed4ec430
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb46bb0
Sg_File_Info* p_endOfConstruct : 0x7f15edb46c08
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb46948
SgExpression* p_lhs_operand_i : 0x7f15edd419d0
SgExpression* p_rhs_operand_i : 0x7f15edd41a38
SgType* p_expression_type : 0
```

pointer:0x7f15edd419d0
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:36
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed3ba080 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb469a0 Sg_File_Info* p_endOfConstruct : 0x7f15edb469f8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb46840 SgVariableSymbol* p_symbol : 0x215c460 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd41a38 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:41 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type Click here to go to the parent node

SgNode* p_parent : 0x7f15ed3ba080 bool p_isModified : 0

bool p_containsTransformation : 0

\$CLASSNAME* p_freepointer : 0xffffffffffffffff \$g_File_Info* p_startOfConstruct : 0x7f15edb46aa8 \$g_File_Info* p_endOfConstruct : 0x7f15edb46b00

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p containsTransformationToSurroundingWhitespace: 0

bool p_need_paren : 0 bool p_lvalue : 0

bool p_global_qualified_name: 0

Sg_File_Info* p_operatorPosition: 0x7f15edb46688

SgVariableSymbol* p_symbol : 0x215c400 SgExpression* p_originalExpressionTree : 0

int p_name_qualification_length : 0
bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

SgPlusPlusOp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:46
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent: 0x7f15ed45b138
bool p_isModified: 0

pointer:0x7f15ed387078

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer: 0xffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb46e70
Sg_File_Info* p_endOfConstruct: 0x7f15edb46ec8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb46a50
SgExpression* p_operand_i: 0x7f15edd41aa0
SgType* p_expression_type: 0
SgUnaryOp::Sgop_mode p_mode: 0

SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 38:49
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed387078

pointer:0x7f15edd41aa0

bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb46d68 Sg_File_Info* p_endOfConstruct : 0x7f15edb46dc0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 1 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb46b58 SgVariableSymbol* p_symbol : 0x215c460 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

bool p_global_qualification_required: 0

pointer:0x7f15ede409e8 SgBasicBlock compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent: 0x7f15ed45b138
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb46f20
Sg_File_Info* p_endOfConstruct : 0x7f15edb46f78
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb1a030
SgTypeTable* p_type_table : 0x136fce0
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec490]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec490 SgExprStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede409e8

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb47600 Sg_File_Info* p_endOfConstruct : 0x7f15edb47658

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd7320

pointer:0x7f15edcd7320 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:19 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed4ec490 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb47550 Sg_File_Info* p_endOfConstruct : 0x7f15edb475a8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb472e8 SgExpression* p_function: 0x7f15ed14c0f0 SgExprListExp* p_args : 0x7f15edd0e3b8 SgType* p_expression_type : 0x7f15ecfd20b0 bool p_uses_operator_syntax: 1

pointer:0x7f15ed14c0f0 SgDotExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: void(int)

```
SgNode* p_parent : 0x7f15edcd7320
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47448
Sg_File_Info* p_endOfConstruct : 0x7f15edb474a0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb471e0
SgExpression* p_lhs_operand_i : 0x7f15edd41b08
SgExpression* p_rhs_operand_i : 0x7f15eca14010
SgType* p_expression_type : 0
SgExpression* p_originalExpressionTree : 0
```

pointer:0x7f15edd41b08 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:9 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: class

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15ed14c0f0 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb47130 Sg_File_Info* p_endOfConstruct : 0x7f15edb47188 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition : 0x7f15edb46fd0 SgVariableSymbol* p_symbol: 0x215c430 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15eca14010
SgMemberFunctionRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:19
IsTransformation:0
IsOutputInCodeGeneration:1
Expression type: void(int)

Click here to go to the parent node

bool p_global_qualification_required: 0

```
SgNode* p_parent : 0x7f15ed14c0f0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47028
Sg_File_Info* p_endOfConstruct : 0x7f15edb47080
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb46e18
SqMemberFunctionSymbol* p_symbol_i : 0x2207460
int p_virtual_call: 0
SgFunctionType* p_function_type: 0
int p_need_qualifier: 0
int p_name_qualification_length: 0
bool p type elaboration required: 0
```

pointer:0x7f15edd0e3b8 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

```
SgNode* p_parent: 0x7f15edcd7320
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb47340
Sg_File_Info* p_endOfConstruct: 0x7f15edb47398
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb46d10
SgExpressionPtrList p_expressions: [0x7f15edd41b70]
```

pointer:0x7f15edd41b70
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 39:21
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: ::RAJA::Index_type

Click here to go to the parent node

SgNode* p_parent: 0x7f15edd0e3b8
bool p_isModified: 0
bool p_containsTransformation: 0
\$CLASSNAME* p_freepointer: 0xffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb47238
Sg_File_Info* p_endOfConstruct: 0x7f15edb47290
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 1
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb470d8
SgVariableSymbol* p_symbol: 0x215c460
SgExpression* p_originalExpressionTree: 0

int p_name_qualification_length : 0
bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

pointer:0x7f15ed4ec4f0 SgExprStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede408d0

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb47868 Sg_File_Info* p_endOfConstruct : 0x7f15edb478c0

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

bool p_containsTransformationToSurroundingWhitespace: 0

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edad8150

pointer:0x7f15edad8150 SgNullExpression compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed4ec4f0
bool p_isModified : 0
bool p_containsTransformation : 0
\$CLASSNAME* p_freepointer : 0xfffffffffffff
Sg_File_Info* p_startOfConstruct : 0x7f15edb477b8
Sg_File_Info* p_endOfConstruct : 0x7f15edb47810
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism : 0
bool p_containsTransformationToSurroundingWhitespace : 0
bool p_need_paren : 0
bool p_lvalue : 0
bool p_global_qualified_name : 0

Sg_File_Info* p_operatorPosition : 0x7f15edb473f0

```
SgTemplateInstantiationFunctionDecl
compilerGenerated 0:0
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L94R
  Click here to go to the parent node
SqNode* p parent: 0x7f15efb61120
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47760
Sg_File_Info* p_endOfConstruct : 0x7f15edb474f8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value : -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier : <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = false isFrie
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p definingDeclaration: 0x7f15ed183c70
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15ed183010
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name : forall < seq_exec , >
SgFunctionParameterList* p_parameterList : 0x7f15eeb5d0c0
SgFunctionModifier p_functionModifier : <too long>: <too long>: SgFunctionModifier(isUnknown() = false isDefault() = true isInline()
SgSpecialFunctionModifier p_specialFunctionModifier: <too long>: <too long>: SgSpecialFunctionModifier(isUnknown() = false isDefault()
SgTypePtrList p_exceptionSpecification : []
bool p_named_in_end_statement: 0
std::string p_asm_name:
SgExprListExp* p_decoratorList : 0
SgFunctionType* p_type : 0x7f15ef5a4200
SgFunctionDefinition* p_definition: 0x7f15eddab730
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7f15eda3f010
SgDeclarationStatement::template_specialization_enum p_specialization: 1
bool p_requiresNameQualificationOnReturnType: 0
std::string p_gnu_extension_section:
std::string p gnu extension alias:
SgDeclarationStatement::gnu_extension_visability_attribute_enum p_gnu_extension_visability: 1
int p_name_qualification_length : 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
int p name qualification length for return type: 0
bool p_type_elaboration_required_for_return_type: 0
bool p_global_qualification_required_for_return_type : 0
bool p_prototypeIsWithoutParameters: 0
int p_gnu_regparm_attribute: -1
SgFunctionType* p type syntax: 0
bool p_type_syntax_is_available: 0
bool p_using_C11_Noreturn_keyword: 0
bool p_is_constexpr: 0
bool p_using_new_function_return_type_syntax: 0
SgFunctionParameterScope* p_functionParameterScope: 0
bool p_marked_as_edg_normalization: 0
SgName p_templateName : forall
SgTemplateFunctionDeclaration* p_templateDeclaration: 0x7f15ed61e010
SgTemplateArgumentPtrList p_templateArguments: [0x7f15ed82a148, 0x7f15ed82a1b0]
bool p nameResetFromMangledForm: 1
```

pointer:0x7f15ed183c70

pointer:0x7f15eeb5d0c0 SgFunctionParameterList compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L95R

Click here to go to the parent node

```
SgNode* p_parent : 0x7f15ed183c70
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47d38
Sg_File_Info* p_endOfConstruct : 0x7f15edb47d90
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
unsigned int p_decl_attributes: 0
std::string p_linkage:
SgDeclarationModifier p_declarationModifier: <too long>: <too long>: SgDeclarationModifier(isUnknown() = false isDefault() = true isFrien
bool p_nameOnly: 0
bool p_forward: 0
bool p_externBrace: 0
bool p_skipElaborateType: 0
SgDeclarationStatement* p_definingDeclaration: 0
SgDeclarationStatement* p_firstNondefiningDeclaration: 0x7f15eeb5d0c0
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
```

SgInitializedNamePtrList p_args: [0x7f15edb78440, 0x7f15edb78588, 0x7f15edb786d0]

pointer:0x7f15edb78440 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5d0c0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb479c8
Sg_File_Info* p_endOfConstruct : 0x7f15edb47a20
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: begin
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183c70
SgStorageModifier* p_storageModifier : 0x21a3a20
SgScopeStatement* p_scope : 0x7f15eddab730
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType : 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb78588 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5d0c0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb47a78
Sg_File_Info* p_endOfConstruct : 0x7f15edb47ad0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: end
std::string p_microsoft_uuid_string :
SgType* p_typeptr : 0x7f15ef83e9d8
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183c70
SgStorageModifier* p_storageModifier: 0x21a3a48
SgScopeStatement* p_scope : 0x7f15eddab730
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15edb786d0 SgInitializedName compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SqNode* p parent: 0x7f15eeb5d0c0
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb47b28
Sg_File_Info* p_endOfConstruct : 0x7f15edb47b80
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: loop body
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7f15ee2d0e90
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7f15ed183c70
SgStorageModifier* p_storageModifier : 0x21a3a70
SgScopeStatement* p_scope : 0x7f15eddab730
SgInitializedName::preinitialization_enum p_preinitialization: 0
bool p isCoArray: 0
SqInitializedName::asm register name enum p register name code: 0
SgInitializedName::excess specifier enum p excess specifier: 0
std::string p register name string:
bool p_requiresGlobalNameQualificationOnType: 0
bool p shapeDeferred: 0
bool p initializationDeferred: 0
unsigned long int p_gnu_attribute_initialization_priority: 0
std::string p gnu attribute named weak reference:
std::string p gnu attribute named alias:
std::string p_gnu_attribute_cleanup_function:
std::string p_gnu_attribute_section_name :
int p_gnu_attribute_alignment : -1
SqDeclarationModifier::gnu declaration visability enum p gnu attribute visability: 0
bool p_protected_declaration: 0
int p_name_qualification_length_for_type: 0
bool p_type_elaboration_required_for_type: 0
bool p_global_qualification_required_for_type: 0
bool p hasArrayTypeWithEmptyBracketSyntax: 0
bool p_using_C11_Alignas_keyword: 0
SgNode* p_constant_or_type_argument_for_Alignas_keyword: 0
bool p using auto keyword: 0
bool p_using_device_keyword: 0
bool p is braced initialized: 0
```

pointer:0x7f15eddab730 SgFunctionDefinition compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15ed183c70
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47bd8
Sg_File_Info* p_endOfConstruct : 0x7f15edb47c30
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb1a290
SgTypeTable* p_type_table: 0x136fd30
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7f15ede40b00
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7f15ede40b00 SgBasicBlock compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7f15eddab730
bool p isModified: 0
bool p_containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7f15edb47918
Sg_File_Info* p_endOfConstruct : 0x7f15edb47970
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
SgLabelRefExp* p_numeric_label: 0
int p_source_sequence_value: -1
SgSymbolTable* p_symbol_table: 0x7f15efb1a160
SgTypeTable* p_type_table: 0x136fd08
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7f15ed4ec550]
std::string p_asm_function_body :
```

pointer:0x7f15ed4ec550 SgExprStatement compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

Click here to go to the parent node

SgNode* p_parent : 0x7f15ede40b00

bool p_isModified : 0

bool p_containsTransformation: 0

\$CLASSNAME* p_freepointer : 0xfffffffffffff

Sg_File_Info* p_startOfConstruct : 0x7f15edb48628 Sg_File_Info* p_endOfConstruct : 0x7f15edb48680

AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0

AstAttributeMechanism* p_attributeMechanism: 0

 ${\color{red}\textbf{bool}}\ p_contains Transformation To Surrounding White space: \textbf{0}$

SgLabelRefExp* p_numeric_label : 0 int p_source_sequence_value : -1

SgExpression* p_expression: 0x7f15edcd7390

pointer:0x7f15edcd7390 SgFunctionCallExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:23 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: void

Click here to go to the parent node

SgNode* p_parent : 0x7f15ed4ec550 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb48578 Sg_File_Info* p_endOfConstruct : 0x7f15edb485d0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb48310 SgExpression* p_function: 0x7f15edd74240 SgExprListExp* p_args: 0x7f15edd0e488 SgType* p_expression_type : 0x7f15ef5a4290 bool p_uses_operator_syntax: 0

```
Click here to go to the parent node
SgNode* p_parent : 0x7f15edcd7390
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb47e40
Sg_File_Info* p_endOfConstruct : 0x7f15edb47e98
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition : 0x7f15edb47c88
SqFunctionSymbol* p_symbol_i : 0x201cb30
SgFunctionType* p_function_type: 0
SgExpression* p_originalExpressionTree : 0
int p_name_qualification_length: 0
```

Expression type: void(struct ::RAJA::seq_exec, ::RAJA::Index_type, ::RAJA::Index_type, class)

pointer:0x7f15edd74240 SgFunctionRefExp

IsOutputInCodeGeneration:0

bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

IsTransformation:0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:16

pointer:0x7f15edd0e488 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgExpressionPtrList p_expressions: [0x7f15ed51b110, 0x7f15edd41bd8, 0x7f15edd41c40, 0x7f15edd41ca8]

SgNode* p_parent : 0x7f15edd0e488 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb47ff8 Sg_File_Info* p_endOfConstruct : 0x7f15edb47f48 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb480a8 bool p_is_explicit_cast: 1 bool p_is_braced_initialized: 0 SgMemberFunctionDeclaration* p_declaration: 0 SgExprListExp* p_args: 0x7f15edd0e420 SgType* p_expression_type : 0x7f15ee2d0e10 bool p need name: 1 bool p_need_qualifier: 0 bool p_need_parenthesis_after_name: 1 bool p associated class unknown: 0 int p_name_qualification_length: 0

/home/liao6/workspace/github/rose-ast.git/lambda.cxx 19:25

pointer:0x7f15ed51b110 SgConstructorInitializer

IsOutputInCodeGeneration:0

Expression type: struct ::RAJA::seq_exec

Click here to go to the parent node

bool p_type_elaboration_required : 0
bool p_global_qualification_required : 0

IsTransformation:0

pointer:0x7f15edd0e420 SgExprListExp compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

Click here to go to the parent node

SgExpressionPtrList p_expressions : []

```
SgNode* p_parent: 0x7f15ed51b110
bool p_isModified: 0
bool p_containsTransformation: 0
$CLASSNAME* p_freepointer: 0xfffffffffffffff
Sg_File_Info* p_startOfConstruct: 0x7f15edb47ef0
Sg_File_Info* p_endOfConstruct: 0x7f15edb47de8
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p_containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb47fa0
```

pointer:0x7f15edd41bd8 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 20:20 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e488 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb48158 Sg_File_Info* p_endOfConstruct : 0x7f15edb481b0 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition: 0x7f15edb48050 SgVariableSymbol* p_symbol : 0x215c490 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd41c40 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/lambda.cxx 20:27 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: ::RAJA::Index_type Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7f15edd0e488 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7f15edb48260 Sg_File_Info* p_endOfConstruct : 0x7f15edb482b8 AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0 AstAttributeMechanism* p_attributeMechanism: 0 bool p containsTransformationToSurroundingWhitespace: 0 bool p_need_paren: 0 bool p_lvalue: 0 bool p_global_qualified_name: 0 Sg_File_Info* p_operatorPosition : 0x7f15edb47ce0 SgVariableSymbol* p_symbol: 0x215c4c0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7f15edd41ca8
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/lambda.cxx 21:20
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: class

```
SgNode* p_parent : 0x7f15edd0e488
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7f15edb48368
Sg_File_Info* p_endOfConstruct : 0x7f15edb483c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr: 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
bool p_need_paren: 0
bool p_lvalue: 0
bool p_global_qualified_name: 0
Sg_File_Info* p_operatorPosition: 0x7f15edb48100
SgVariableSymbol* p_symbol: 0x215c4f0
SgExpression* p_originalExpressionTree : 0
int p_name_qualification_length: 0
bool p_type_elaboration_required: 0
bool p_global_qualification_required: 0
```