pointer:0x7fe1b0ce8010 SgSourceFile

SgNode* p_parent : 0x1760360

root node

```
bool p isModified: 0
bool p_containsTransformation: 0
Sq File Info* p startOfConstruct : 0x7fe1b0e9b068
SgStringList p_originalCommandLineArgumentList : [pdfGenerator, -std=c++11, -c, pointerArray.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:0x7fe1b0e16120 SgGlobal /home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 0:0 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7fe1b0ce8010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1b0e9b0c0
Sg_File_Info* p_endOfConstruct : 0x7fe1b0e9b118
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: 0x7fe1b0dcb140
SgTypeTable* p_type_table: 0x179ada8
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>: [0x7fe1b0b3d010, 0x7fe1b0b3d2b0, 0x7fe1b066e010, 0x7fe1b
```

```
IsTransformation:0
IsOutputInCodeGeneration:0
Declaration mangled name: L2R__L3R
  Click here to go to the parent node
SgNode* p_parent : 0x7fe1b0e16120
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7150
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a70f8
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: 0x7fe1afcb99e0
SgDeclarationStatement* p_firstNondefiningDeclaration : 0x7fe1afcb9610
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label:
SgName p_name: foo
SgFunctionParameterList* p_parameterList: 0x7fe1afe09860
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 : 0x7fe1b0852fc0
SgFunctionDefinition* p_definition: 0x7fe1af760010
bool p oldStyleDefinition: 0
SgScopeStatement* p_scope : 0x7fe1b0e16120
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:0x7fe1afcb99e0 SgFunctionDeclaration

/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 1:1

pointer:0x7fe1afe09860 SgFunctionParameterList /home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 1:1 IsTransformation:0 IsOutputInCodeGeneration:0 Declaration mangled name: L3R

SgInitializedNamePtrList p_args: [0x7fe1af996830, 0x7fe1af996978]

```
SgNode* p_parent : 0x7fe1afcb99e0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7728
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7780
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: 0x7fe1afe09860
SgQualifiedNamePtrList p_qualifiedNameList : []
std::string p_binding_label :
```

```
pointer:0x7fe1af996830
SgInitializedName
/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 1:16
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7fe1afe09860
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7fe1af8a7468
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a74c0
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name : indexSet
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7fe1b06331f0
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7fe1afcb99e0
SgStorageModifier* p_storageModifier : 0x23e0360
SgScopeStatement* p_scope : 0x7fe1af760010
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:0x7fe1af996978
SglnitializedName
/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 1:31
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SqNode* p parent: 0x7fe1afe09860
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7fe1af8a7518
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7570
AttachedPreprocessingInfoType* p_attachedPreprocessingInfoPtr : 0
AstAttributeMechanism* p_attributeMechanism: 0
bool p containsTransformationToSurroundingWhitespace: 0
SqName p name: idx
std::string p_microsoft_uuid_string:
SgType* p_typeptr : 0x7fe1b0962010
SgInitializer* p initptr: 0
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7fe1afcb99e0
SgStorageModifier* p_storageModifier : 0x23e0388
SgScopeStatement* p_scope : 0x7fe1af760010
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:0x7fe1af760010
SgFunctionDefinition
/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 2:1
IsTransformation:0
IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7fe1afcb99e0
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a75c8
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7620
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: 0x7fe1b0dcb4d0
SgTypeTable* p_type_table: 0x179ae20
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgBasicBlock* p_body : 0x7fe1af7f5010
std::map<SgNode*,int> p_scope_number_list : []
```

pointer:0x7fe1af7f5010 SgBasicBlock /home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 2:1 IsTransformation:0 IsOutputInCodeGeneration:0

```
SgNode* p_parent : 0x7fe1af760010
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a73b8
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7410
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: 0x7fe1b0dcb3a0
SgTypeTable* p_type_table: 0x179adf8
std::set<SgSymbol*> p_type_elaboration_list : []
std::set<SgSymbol*> p_hidden_type_list : []
std::set<SgSymbol*> p_hidden_declaration_list : []
SgStatementPtrList p_statements : [0x7fe1af61f010]
std::string p_asm_function_body :
```

```
Click here to go to the parent node
SqNode* p parent: 0x7fe1af7f5010
bool p isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7938
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7990
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: 0x7fe1af61f010
SgQualifiedNamePtrList p qualifiedNameList: []
std::string p binding label:
SgDeclarationStatement* p_baseTypeDefiningDeclaration: 0
SgInitializedNamePtrList p_variables : [0x7fe1af996ac0]
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
```

SqSS2

scope

pointer:0x7fe1af61f010 SgVariableDeclaration

IsOutputInCodeGeneration:0

IsTransformation:0

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

Declaration mangled name: _variable_declaration__variable_type_i_variable_name_L2R__L3R__scope_

```
pointer:0x7fe1af996ac0
SgInitializedName
/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 3:3
IsTransformation:0
IsOutputInCodeGeneration:0
```

```
SgNode* p parent: 0x7fe1af61f010
bool p isModified: 0
bool p containsTransformation: 0
Sg File Info* p startOfConstruct: 0x7fe1af8a78e0
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7888
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 : 0x7fe1b0962010
SgInitializer* p initptr: 0x7fe1af464010
SgInitializedName* p_prev_decl_item: 0
bool p is initializer: 1
SgDeclarationStatement* p_declptr : 0x7fe1af501010
SgStorageModifier* p_storageModifier : 0x23e03b0
SgScopeStatement* p_scope : 0x7fe1af7f5010
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:0x7fe1af464010 SgAssignInitializer compilerGenerated 0:0 IsTransformation:0 IsOutputInCodeGeneration:1 Expression type: int

SgType* p_expression_type: 0

```
SgNode* p_parent : 0x7fe1af996ac0
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7d58
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7d00
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 : 0x7fe1af8a7af0
bool p_is_explicit_cast: 1
bool p_is_braced_initialized: 0
SgExpression* p_operand_i : 0x7fe1af497010
```

pointer:0x7fe1af497010 SgPntrArrRefExp /home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 3:19 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int

Click here to go to the parent node

SgExpression* p_originalExpressionTree : 0

```
SgNode* p_parent : 0x7fe1af464010
bool p_isModified: 0
bool p_containsTransformation: 0
Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7c50
Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7ca8
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: 0x7fe1af8a79e8
SgExpression* p_lhs_operand_i : 0x7fe1af4ce010
SgExpression* p_rhs_operand_i : 0x7fe1af4ce078
SgType* p_expression_type : 0
```

pointer:0x7fe1af4ce010 SgVarRefExp /home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 3:11 IsTransformation:0 IsOutputInCodeGeneration:0 Expression type: int *

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7fe1af497010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7a40 Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7a98 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 : 0x7fe1af8a77d8 SgVariableSymbol* p_symbol: 0x245a4b0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0

pointer:0x7fe1af4ce078
SgVarRefExp
/home/liao6/workspace/github/rose-ast.git/pointerArray.cxx 3:20
IsTransformation:0
IsOutputInCodeGeneration:0
Expression type: int

Click here to go to the parent node

bool p_global_qualification_required: 0

SgNode* p_parent : 0x7fe1af497010 bool p_isModified: 0 bool p_containsTransformation: 0 Sg_File_Info* p_startOfConstruct : 0x7fe1af8a7b48 Sg_File_Info* p_endOfConstruct : 0x7fe1af8a7ba0 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 : 0x7fe1af8a7830 SgVariableSymbol* p_symbol: 0x245a4e0 SgExpression* p_originalExpressionTree : 0 int p_name_qualification_length: 0 bool p_type_elaboration_required: 0