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|-UsingDirectiveDecl 0x105800bf0 <test1.cc:3:1, col:17> col:17 Namespace
0x10302ed30 'std'
|-FunctionDecl 0x105800cd0 <line:5:1, col:18> col:5 used factorial 'int (int)'
|  |-ParmVarDecl 0x105800c50 <col:15> col:18 'int'
|-FunctionDecl 0x105800da0 <line:7:1, line:17:1> line:7:5 main 'int (void)'
|  |-CompoundStmt 0x10580b438 <col:12, line:17:1>
|    |-DeclStmt 0x105800ea8 <line:8:2, col:12>
|      |-VarDecl 0x105800e50 <col:2, col:6> col:6 used number 'int'

|    |-CXXOperatorCallExpr 0x105804e50 <line:10:2, col:10> 'basic_ostream<char,
struct std::__1::char_traits<char> >':'class std::__1::basic_ostream<char>'
lvalue
|      |-ImplicitCastExpr 0x105804e38 <col:7> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(*)>(basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' <FunctionToPointerDecay>
|        |-DeclRefExpr 0x105804db0 <col:7> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' lvalue Function 0x105803530
'operator<<' 'basic_ostream<char, struct std::__1::char_traits<char> >
&(basic_ostream<char, struct std::__1::char_traits<char> > &, const char *)'
|          |-DeclRefExpr 0x105800ec0 <col:2> 'ostream':'class
std::__1::basic_ostream<char>' lvalue Var 0x1058005d0 'cout' 'ostream':'class
std::__1::basic_ostream<char>'
|            |-ImplicitCastExpr 0x105804d98 <col:10> 'const char *'
<ArrayToPointerDecay>
|              |-StringLiteral 0x105800ee8 <col:10> 'const char [34]' lvalue "Please
enter a positive integer: "

|    |-CXXOperatorCallExpr 0x105806860 <line:11:2, col:9> 'class
std::__1::basic_istream<char>' lvalue
|      |-ImplicitCastExpr 0x105806848 <col:6> 'class
std::__1::basic_istream<char> &(*)>(int &)' <FunctionToPointerDecay>
|        |-DeclRefExpr 0x1058067f8 <col:6> 'class std::__1::basic_istream<char>
&(int &)' lvalue CXXMethod 0x1037dcf20 'operator>>' 'class
std::__1::basic_istream<char> &(int &)'
|          |-DeclRefExpr 0x105804e98 <col:2> 'istream':'class
std::__1::basic_istream<char>' lvalue Var 0x1058004d0 'cin' 'istream':'class
std::__1::basic_istream<char>'
|            |-DeclRefExpr 0x105804ec0 <col:9> 'int' lvalue Var 0x105800e50 'number'
'int'

|      |-IfStmt 0x10580b3c8 <line:12:2, line:15:63>
|        |-<<<NULL>>>
|          |-BinaryOperator 0x105806908 <line:12:6, col:15> '_Bool' '<'
|            |-ImplicitCastExpr 0x1058068f0 <col:6> 'int' <LValueToRValue>
|              |-DeclRefExpr 0x1058068a8 <col:6> 'int' lvalue Var 0x105800e50
'number' 'int'
|                |-IntegerLiteral 0x1058068d0 <col:15> 'int' 0

|      |-CXXOperatorCallExpr 0x1058071d8 <line:13:3, col:11> 'basic_ostream<char,
struct std::__1::char_traits<char> >':'class std::__1::basic_ostream<char>'
lvalue

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| | | |-ImplicitCastExpr 0x1058071c0 <col:8> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(*) (basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' <FunctionToPointerDecay>
| | | | `~DeclRefExpr 0x105807198 <col:8> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' lvalue Function 0x105803530
'operator<<' 'basic_ostream<char, struct std::__1::char_traits<char> >
&(basic_ostream<char, struct std::__1::char_traits<char> > &, const char *)'
| | | |-DeclRefExpr 0x105806930 <col:3> 'ostream': 'class
std::__1::basic_ostream<char>' lvalue Var 0x1058005d0 'cout' 'ostream': 'class
std::__1::basic_ostream<char>'
| | | `~ImplicitCastExpr 0x105807180 <col:11> 'const char *'
<ArrayToPointerDecay>
| | | `~StringLiteral 0x105806958 <col:11> 'const char [33]' lvalue "That is
not a positive integer.\n"

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| | `~CXXOperatorCallExpr 0x10580b380 <line:15:3, col:63> 'class
std::__1::basic_ostream<char>' lvalue
| | | |-ImplicitCastExpr 0x10580b368 <col:60> 'class
std::__1::basic_ostream<char> &(*) (class std::__1::basic_ostream<char> &(*)
(class std::__1::basic_ostream<char> &))' <FunctionToPointerDecay>
| | | | `~DeclRefExpr 0x10580b2e8 <col:60> 'class
std::__1::basic_ostream<char> &(class std::__1::basic_ostream<char> &(*) (class
std::__1::basic_ostream<char> &))' lvalue CXXMethod 0x10376b8f0 'operator<<'
'class std::__1::basic_ostream<char> &(class std::__1::basic_ostream<char> &(*)
(class std::__1::basic_ostream<char> &))'

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| | | |-CXXOperatorCallExpr 0x105808ca0 <col:3, col:58> 'class
std::__1::basic_ostream<char>' lvalue
| | | | |-ImplicitCastExpr 0x105808c88 <col:39> 'class
std::__1::basic_ostream<char> &(*) (int)' <FunctionToPointerDecay>
| | | | | `~DeclRefExpr 0x105808c60 <col:39> 'class
std::__1::basic_ostream<char> &(int)' lvalue CXXMethod 0x10376c6c0 'operator<<'
'class std::__1::basic_ostream<char> &(int)'
| | | | |-CXXOperatorCallExpr 0x105808358 <col:3, col:21> 'basic_ostream<char,
struct std::__1::char_traits<char> >': 'class std::__1::basic_ostream<char>'
lvalue
| | | | | |-ImplicitCastExpr 0x105808340 <col:18> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(*) (basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' <FunctionToPointerDecay>
| | | | | | `~DeclRefExpr 0x105808318 <col:18> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(basic_ostream<char, struct
std::__1::char_traits<char> > &, const char *)' lvalue Function 0x105803530
'operator<<' 'basic_ostream<char, struct std::__1::char_traits<char> >
&(basic_ostream<char, struct std::__1::char_traits<char> > &, const char *)'
| | | | | |-CXXOperatorCallExpr 0x105807aa0 <col:3, col:11> 'class
std::__1::basic_ostream<char>' lvalue
| | | | | | |-ImplicitCastExpr 0x105807a88 <col:8> 'class
std::__1::basic_ostream<char> &(*) (int)' <FunctionToPointerDecay>
| | | | | | | `~DeclRefExpr 0x105807a38 <col:8> 'class
std::__1::basic_ostream<char> &(int)' lvalue CXXMethod 0x10376c6c0 'operator<<'
'class std::__1::basic_ostream<char> &(int)'

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| | | | | -DeclRefExpr 0x105807220 <col:3> 'ostream': 'class
std::__1::basic_ostream<char>' lvalue Var 0x1058005d0 'cout' 'ostream': 'class
std::__1::basic_ostream<char>'
| | | | | -ImplicitCastExpr 0x105807a20 <col:11> 'int' <LValueToRValue>
| | | | | -DeclRefExpr 0x105807248 <col:11> 'int' lvalue Var 0x105800e50
'number' 'int'
| | | | | -ImplicitCastExpr 0x105808300 <col:21> 'const char *'
<ArrayToPointerDecay>
| | | | | -StringLiteral 0x105807ae8 <col:21> 'const char [16]' lvalue "
factorial is: "
| | | | | -CallExpr 0x105808460 <col:42, col:58> 'int'
| | | | | -ImplicitCastExpr 0x105808448 <col:42> 'int (*)(int)'
<FunctionToPointerDecay>
| | | | | -DeclRefExpr 0x105808420 <col:42> 'int (int)' lvalue Function
0x105800cd0 'factorial' 'int (int)'
| | | | | -ImplicitCastExpr 0x105808490 <col:52> 'int' <LValueToRValue>
| | | | | -DeclRefExpr 0x1058083f8 <col:52> 'int' lvalue Var 0x105800e50
'number' 'int'
| | | -ImplicitCastExpr 0x10580b2d0 <col:63> 'basic_ostream<char, struct
std::__1::char_traits<char> > &(*) (basic_ostream<char, struct
std::__1::char_traits<char> > &)' <FunctionToPointerDecay>
| | | -DeclRefExpr 0x10580b2a0 <col:63> 'basic_ostream<char, struct
std::__1::char_traits<char> > & (basic_ostream<char, struct
std::__1::char_traits<char> > &)' lvalue Function 0x105809d50 'endl'
'basic_ostream<char, struct std::__1::char_traits<char> > & (basic_ostream<char,
struct std::__1::char_traits<char> > &)' (FunctionTemplate 0x1037650a0 'endl')
| | -ReturnStmt 0x10580b418 <line:16:2, col:9>
| | -IntegerLiteral 0x10580b3f8 <col:9> 'int' 0
-FunctionDecl 0x10580b510 prev 0x105800cd0 <line:19:1, line:26:1> line:19:5
used factorial 'int (int)'
| -ParmVarDecl 0x10580b490 <col:15, col:19> col:19 used number 'int'
-CompoundStmt 0x10580b9a0 <col:27, line:26:1>
| -DeclStmt 0x10580b628 <line:20:2, col:10>
| -VarDecl 0x10580b5d0 <col:2, col:6> col:6 used temp 'int'
| -IfStmt 0x10580b708 <line:22:2, col:25>
| | -<<<NULL>>>
| | -BinaryOperator 0x10580b6a0 <col:5, col:15> '_Bool' '<='
| | | -ImplicitCastExpr 0x10580b688 <col:5> 'int' <LValueToRValue>
| | | -DeclRefExpr 0x10580b640 <col:5> 'int' lvalue ParmVar 0x10580b490
'number' 'int'
| | | -IntegerLiteral 0x10580b668 <col:15> 'int' 1
| | | -ReturnStmt 0x10580b6e8 <col:18, col:25>
| | | -IntegerLiteral 0x10580b6c8 <col:25> 'int' 1
| | -<<<NULL>>>
| | -BinaryOperator 0x10580b918 <line:24:2, col:38> 'int' lvalue '='
| | -DeclRefExpr 0x10580b738 <col:2> 'int' lvalue Var 0x10580b5d0 'temp'
'int'
| -BinaryOperator 0x10580b8f0 <col:9, col:38> 'int' '*'
| | -ImplicitCastExpr 0x10580b8d8 <col:9> 'int' <LValueToRValue>
| | | -DeclRefExpr 0x10580b760 <col:9> 'int' lvalue ParmVar 0x10580b490
'number' 'int'
| | -CallExpr 0x10580b8a8 <col:18, col:38> 'int'

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    |      |-ImplicitCastExpr 0x10580b890 <col:18> 'int (*)(int)'
<FunctionToPointerDecay>
    |      |`-DeclRefExpr 0x10580b868 <col:18> 'int (int)' lvalue Function
0x10580b510 'factorial' 'int (int)'
    |      |-BinaryOperator 0x10580b840 <col:28, col:37> 'int' '-'
    |      |   |-ImplicitCastExpr 0x10580b828 <col:28> 'int' <LValueToRValue>
    |      |   |`-DeclRefExpr 0x10580b7e0 <col:28> 'int' lvalue ParmVar
0x10580b490 'number' 'int'
    |      |-IntegerLiteral 0x10580b808 <col:37> 'int' 1
    |-ReturnStmt 0x10580b980 <line:25:2, col:9>
    |-ImplicitCastExpr 0x10580b968 <col:9> 'int' <LValueToRValue>
    |-DeclRefExpr 0x10580b940 <col:9> 'int' lvalue Var 0x10580b5d0 'temp'
'int'

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