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Parsed Quicksort.ic successfully!

Abstract Syntax Tree: Quicksort.ic

15: Declaration of class: Quicksort
  16: Declaration of field: a
   16: Primitive data type: 1-dimensional array of int
  18: Declaration of virtual method: partition
    18: Primitive data type: int
    18: Parameter: low
     18: Primitive data type: int
    18: Parameter: high
     18: Primitive data type: int
    19: Declaration of local variable: pivot, with initial value
      19: Primitive data type: int
      19: Reference to array
        19: Reference to variable: a
        19: Reference to variable: low
    20: Declaration of local variable: i, with initial value
      20: Primitive data type: int
      20: Reference to variable: low
    21: Declaration of local variable: j, with initial value
      21: Primitive data type: int
      21: Reference to variable: high
    22: Declaration of local variable: tmp
     22: Primitive data type: int
    24: While statement
      24: Boolean literal: true
      24: Block of statements
        25: While statement
          25: Logical binary operation: less than
            25: Reference to array
              25: Reference to variable: a
              25: Reference to variable: i
            25: Reference to variable: pivot
          25: Assignment statement
            25: Reference to variable: i
            25: Mathematical binary operation: addition
              25: Reference to variable: i
              25: Integer literal: 1
        26: While statement
          26: Logical binary operation: greater than
            26: Reference to array
              26: Reference to variable: a
              26: Reference to variable: j
            26: Reference to variable: pivot
          26: Assignment statement
            26: Reference to variable: j
            26: Mathematical binary operation: subtraction
              26: Reference to variable: j
              26: Integer literal: 1
        28: If statement
          28: Logical binary operation: greater than or equal to
            28: Reference to variable: i
            28: Reference to variable: j
          28: Break statement
        30: Assignment statement
          30: Reference to variable: tmp
          30: Reference to array
            30: Reference to variable: a
            30: Reference to variable: i
        31: Assignment statement
          31: Reference to array
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          31: Reference to variable: a
          31: Reference to variable: i
        31: Reference to array
          31: Reference to variable: a
          31: Reference to variable: j
      32: Assignment statement
        32: Reference to array
          32: Reference to variable: a
          32: Reference to variable: j
        32: Reference to variable: tmp
      33: Assignment statement
        33: Reference to variable: i
        33: Mathematical binary operation: addition
          33: Reference to variable: i
          33: Integer literal: 1
      34: Assignment statement
        34: Reference to variable: j
        34: Mathematical binary operation: subtraction
          34: Reference to variable: j
          34: Integer literal: 1
  37: Return statement, with return value
   37: Reference to variable: j
40: Declaration of virtual method: quicksort
  40: Primitive data type: void
  40: Parameter: low
   40: Primitive data type: int
  40: Parameter: high
   40: Primitive data type: int
  41: If statement
    41: Logical binary operation: less than
      41: Reference to variable: low
      41: Reference to variable: high
    41: Block of statements
      42: Declaration of local variable: mid, with initial value
        42: Primitive data type: int
        42: Call to virtual method: partition
          42: Reference to variable: low
          42: Reference to variable: high
      43: Method call statement
       43: Call to virtual method: quicksort
         43: Reference to variable: low
         43: Reference to variable: mid
      44: Method call statement
       44: Call to virtual method: quicksort
         44: Mathematical binary operation: addition
           44: Reference to variable: mid
           44: Integer literal: 1
         44: Reference to variable: high
48: Declaration of virtual method: initArray
  48: Primitive data type: void
  49: Declaration of local variable: i, with initial value
    49: Primitive data type: int
    49: Integer literal: 0
  50: While statement
    50: Logical binary operation: less than
      50: Reference to variable: i
      50: Reference to array length
       50: Reference to variable: a
    50: Block of statements
      51: Assignment statement
        51: Reference to array
          51: Reference to variable: a
          51: Reference to variable: i
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        51: Call to static method: random, in class Library
          51: Mathematical binary operation: multiplication
            51: Reference to array length
             51: Reference to variable: a
            51: Integer literal: 2
      52: Assignment statement
        52: Reference to variable: i
        52: Mathematical binary operation: addition
          52: Reference to variable: i
          52: Integer literal: 1
56: Declaration of virtual method: printArray
  56: Primitive data type: void
  57: Declaration of local variable: i, with initial value
    57: Primitive data type: int
    57: Integer literal: 0
  59: Method call statement
   59: Call to static method: print, in class Library
     59: String literal: "Array elements: "
  60: While statement
    60: Logical binary operation: less than
      60: Reference to variable: i
      60: Reference to array length
       60: Reference to variable: a
    60: Block of statements
      61: Method call statement
       61: Call to static method: printi, in class Library
         61: Reference to array
           61: Reference to variable: a
           61: Reference to variable: i
      62: Method call statement
       62: Call to static method: print, in class Library
         62: String literal: " "
      63: Assignment statement
        63: Reference to variable: i
        63: Mathematical binary operation: addition
          63: Reference to variable: i
          63: Integer literal: 1
  65: Method call statement
   65: Call to static method: print, in class Library
     65: String literal: "\n"
68: Declaration of static method: main
  68: Primitive data type: void
  68: Parameter: args
   68: Primitive data type: 1-dimensional array of string
  69: Declaration of local variable: n
   69: Primitive data type: int
  71: If statement
    71: Logical binary operation: inequality
      71: Reference to array length
       71: Reference to variable: args
      71: Integer literal: 1
    71: Block of statements
      72: Method call statement
       72: Call to static method: println, in class Library
         72: String literal: "Unspecified array length"
      73: Method call statement
       73: Call to static method: exit, in class Library
         73: Integer literal: 1
  76: Assignment statement
    76: Reference to variable: n
    76: Call to static method: stoi, in class Library
      76: Reference to array
        76: Reference to variable: args
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      76: Integer literal: 0
    76: Integer literal: 0
77: If statement
  77: Logical binary operation: less than or equal to
    77: Reference to variable: n
    77: Integer literal: 0
  77: Block of statements
    78: Method call statement
     78: Call to static method: println, in class Library
       78: String literal: "Invalid array length"
    79: Method call statement
     79: Call to static method: exit, in class Library
       79: Integer literal: 1
81: Declaration of local variable: s, with initial value
  81: User-defined data type: Quicksort
  81: Instantiation of class: Quicksort
82: Assignment statement
  82: Reference to variable: a, in external scope
   82: Reference to variable: s
  82: Array allocation
    82: Primitive data type: int
    82: Reference to variable: n
84: Method call statement
 84: Call to virtual method: initArray, in external scope
   84: Reference to variable: s
85: Method call statement
 85: Call to virtual method: printArray, in external scope
   85: Reference to variable: s
86: Method call statement
 86: Call to virtual method: quicksort, in external scope
   86: Reference to variable: s
   86: Integer literal: 0
   86: Mathematical binary operation: subtraction
     86: Reference to variable: n
     86: Integer literal: 1
87: Method call statement
 87: Call to virtual method: printArray, in external scope
   87: Reference to variable: s
```