```
        .arch armv8-a
        .file   "main.cpp"
// GNU C++11 (Ubuntu 11.3.0-1ubuntu1~22.04) version 11.3.0 (aarch64-linux-gnu)
//      compiled by GNU C version 11.3.0, GMP version 6.2.1, MPFR version 4.1.0,
 MPC version 1.2.1, isl version isl-0.24-GMP

// GGC heuristics: --param ggc-min-expand=100 --param ggc-min-heapsize=131072
// options passed: -mlittle-endian -mabi=lp64 -std=c++11 -fno-rtti -fomit-frame-
pointer -fno-stack-protector -fasynchronous-unwind-tables -fstack-clash-protecti
on
        .text
        .section        .text._ZNSt9exceptionC2Ev,"axG",@progbits,_ZNSt9exceptio
nC5Ev,comdat
        .align  2
        .weak   _ZNSt9exceptionC2Ev
        .type   _ZNSt9exceptionC2Ev, %function
_ZNSt9exceptionC2Ev:
.LFB13:
        .cfi_startproc
        sub     sp, sp, #16     //,,
        .cfi_def_cfa_offset 16
        str     x0, [sp, 8]     // this, this
// /usr/include/c++/11/bits/exception.h:64:      exception() _GLIBCXX_NOTHROW { }
        adrp    x0, :got:_ZTVSt9exception       // tmp94,
        ldr     x0, [x0, #:got_lo12:_ZTVSt9exception]    // tmp93, tmp94,
        add     x1, x0, 16      // _1, tmp93,
        ldr     x0, [sp, 8]     // tmp95, this
        str     x1, [x0]        // _1, this_3(D)->_vptr.exception
// /usr/include/c++/11/bits/exception.h:64:      exception() _GLIBCXX_NOTHROW { }
        nop
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE13:
        .size   _ZNSt9exceptionC2Ev, .-_ZNSt9exceptionC2Ev
        .weak   _ZNSt9exceptionC1Ev
        .set    _ZNSt9exceptionC1Ev,_ZNSt9exceptionC2Ev
        .section        .text._ZNSt9bad_allocC2Ev,"axG",@progbits,_ZNSt9bad_allo
cC5Ev,comdat
        .align  2
        .weak   _ZNSt9bad_allocC2Ev
        .type   _ZNSt9bad_allocC2Ev, %function
_ZNSt9bad_allocC2Ev:
.LFB33:
        .cfi_startproc
        str     x30, [sp, -32]! //,
        .cfi_def_cfa_offset 32
        .cfi_offset 30, -32
        str     x0, [sp, 24]    // this, this
// /usr/include/c++/11/new:58:      bad_alloc() throw() { }
        ldr     x0, [sp, 24]    // _1, this
        bl      _ZNSt9exceptionC2Ev             //
        adrp    x0, :got:_ZTVSt9bad_alloc       // tmp97,
        ldr     x0, [x0, #:got_lo12:_ZTVSt9bad_alloc]    // tmp96, tmp97,
        add     x1, x0, 16      // _2, tmp96,
        ldr     x0, [sp, 24]    // tmp98, this
        str     x1, [x0]        // _2, this_6(D)->D.5087._vptr.exception
// /usr/include/c++/11/new:58:      bad_alloc() throw() { }
        nop
        ldr     x30, [sp], 32   //,
        .cfi_restore 30
```

```
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE33:
        .size   _ZNSt9bad_allocC2Ev, .-_ZNSt9bad_allocC2Ev
        .weak   _ZNSt9bad_allocC1Ev
        .set    _ZNSt9bad_allocC1Ev,_ZNSt9bad_allocC2Ev
        .section        .text._ZnwmPv,"axG",@progbits,_ZnwmPv,comdat
        .align  2
        .weak   _ZnwmPv
        .type   _ZnwmPv, %function
_ZnwmPv:
.LFB38:
        .cfi_startproc
        sub     sp, sp, #16     //,,
        .cfi_def_cfa_offset 16
        str     x0, [sp, 8]     // D.5164, D.5164
        str     x1, [sp]        // __p, __p
// /usr/include/c++/11/new:175: { return __p; }
        ldr     x0, [sp]        // _2, __p
// /usr/include/c++/11/new:175: { return __p; }
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE38:
        .size   _ZnwmPv, .-_ZnwmPv
        .section        .text._ZdlPvS_,"axG",@progbits,_ZdlPvS_,comdat
        .align  2
        .weak   _ZdlPvS_
        .type   _ZdlPvS_, %function
_ZdlPvS_:
.LFB40:
        .cfi_startproc
        sub     sp, sp, #16     //,,
        .cfi_def_cfa_offset 16
        str     x0, [sp, 8]     // D.5172, D.5172
        str     x1, [sp]        // D.5173, D.5173
// /usr/include/c++/11/new:180: inline void operator delete  (void*, void*) _GLI
BCXX_USE_NOEXCEPT { }
        nop
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE40:
        .size   _ZdlPvS_, .-_ZdlPvS_
        .section        .rodata
        .align  3
        .type   _ZStL19piecewise_construct, %object
        .size   _ZStL19piecewise_construct, 1
_ZStL19piecewise_construct:
        .zero   1
        .local  _ZStL8__ioinit
        .comm   _ZStL8__ioinit,1,8
        .global CONTROLS
        .align  3
.LC0:
        .string "^X:Exit ^O:Save ^W:Search ^T:Replace"
        .section        .data.rel.local,"aw"
        .align  3
        .type   CONTROLS, %object
```

```
        .size   CONTROLS, 8
CONTROLS:
        .xword  .LC0
        .text
        .align  2
        .global _Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EE
        .type   _Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EE, %function
_Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEE:
.LFB1656:
        .cfi_startproc
        .cfi_personality 0x9b,DW.ref.__gxx_personality_v0
        .cfi_lsda 0x1b,.LLSDA1656
        stp     x19, x20, [sp, -64]!    //,,,
        .cfi_def_cfa_offset 64
        .cfi_offset 19, -64
        .cfi_offset 20, -56
        stp     x21, x30, [sp, 16]      //,,
        .cfi_offset 21, -48
        .cfi_offset 30, -40
        str     x0, [sp, 40]     // line, line
// main.cpp:21:    Node *new_node = (Node *)malloc(sizeof(Node));
        mov     x0, 40  //,
        bl      malloc          //
        str     x0, [sp, 56]     // tmp98, new_node
// main.cpp:22:    if (new_node ≡ NULL)
        ldr     x0, [sp, 56]     // tmp99, new_node
        cmp     x0, 0   // tmp99,
        bne     .L7            //,
// main.cpp:24:       throw std::bad_alloc();
        mov     x0, 8   //,
        bl      __cxa_allocate_exception                //
        mov     x19, x0 // _13, tmp100
// main.cpp:24:       throw std::bad_alloc();
        mov     x0, x19 //, _13
        bl      _ZNSt9bad_allocC1Ev             //
// main.cpp:24:       throw std::bad_alloc();
        adrp    x0, :got:_ZNSt9bad_allocD1Ev     // tmp101,
        ldr     x2, [x0, #:got_lo12:_ZNSt9bad_allocD1Ev]        //, tmp101,
        adrp    x0, _ZTISt9bad_alloc    // tmp102,
        add     x1, x0, :lo12:_ZTISt9bad_alloc  //, tmp102,
        mov     x0, x19 //, _13
.LEHB0:
        bl      __cxa_throw             //
.LEHE0:
.L7:
// main.cpp:26:    new (&new_node→line) std::string(line); // Using placement
new to construct string
        ldr     x19, [sp, 56]   // _4, new_node
// main.cpp:26:    new (&new_node→line) std::string(line); // Using placement
new to construct string
        mov     x1, x19 //, _4
        mov     x0, 32  //,
        bl      _ZnwmPv         //
        mov     x20, x0 // _6,
        ldr     x1, [sp, 40]     //, line
        mov     x0, x20 //, _6
.LEHB1:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1ERKS4_
//
.LEHE1:
```

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// main.cpp:27:    new_node→next = NULL;
        ldr     x0, [sp, 56]     // tmp103, new_node
        str     xzr, [x0, 32]    //, new_node_3→next
// main.cpp:28:    return new_node;
        ldr     x0, [sp, 56]     // _10, new_node
        b       .L11            //
.L10:
// main.cpp:26:    new (&new_node→line) std::string(line); // Using placement
new to construct string
        mov     x21, x0 // tmp105,
        mov     x1, x19 //, _4
        mov     x0, x20 //, _6
        bl      _ZdlPvS_                //
        mov     x0, x21 // D.49577, tmp105
.LEHB2:
        bl      _Unwind_Resume          //
.LEHE2:
.L11:
// main.cpp:29: }
        ldp     x21, x30, [sp, 16]      //,,,
        ldp     x19, x20, [sp], 64      //,,,
        .cfi_restore 20
        .cfi_restore 19
        .cfi_restore 21
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1656:
        .global __gxx_personality_v0
        .section        .gcc_except_table,"a",@progbits
.LLSDA1656:
        .byte   0xff
        .byte   0xff
        .byte   0x1
        .uleb128 .LLSDACSE1656-.LLSDACSB1656
.LLSDACSB1656:
        .uleb128 .LEHB0-.LFB1656
        .uleb128 .LEHE0-.LEHB0
        .uleb128 0
        .uleb128 0
        .uleb128 .LEHB1-.LFB1656
        .uleb128 .LEHE1-.LEHB1
        .uleb128 .L10-.LFB1656
        .uleb128 0
        .uleb128 .LEHB2-.LFB1656
        .uleb128 .LEHE2-.LEHB2
        .uleb128 0
        .uleb128 0
.LLSDACSE1656:
        .text
        .size   _Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EE, .-_Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEE
        .align  2
        .global _Z12destroy_nodeP4Node
        .type   _Z12destroy_nodeP4Node, %function
_Z12destroy_nodeP4Node:
.LFB1663:
        .cfi_startproc
        str     x30, [sp, -32]! //,
        .cfi_def_cfa_offset 32
        .cfi_offset 30, -32
```

```
        str     x0, [sp, 24]    // node, node
// main.cpp:35:     node→line.~basic_string(); // Manually calling string destr
uctor
        ldr     x0, [sp, 24]    // _1, node
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
// main.cpp:36:     free(node);
        ldr     x0, [sp, 24]    //, node
        bl      free            //
// main.cpp:37: }
        nop
        ldr     x30, [sp], 32   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1663:
        .size   _Z12destroy_nodeP4Node, .-_Z12destroy_nodeP4Node
        .section        .text._ZN10LinkedListC2Ev,"axG",@progbits,_ZN10LinkedLis
tC5Ev,comdat
        .align  2
        .weak   _ZN10LinkedListC2Ev
        .type   _ZN10LinkedListC2Ev, %function
_ZN10LinkedListC2Ev:
.LFB1665:
        .cfi_startproc
        sub     sp, sp, #16     //,,
        .cfi_def_cfa_offset 16
        str     x0, [sp, 8]     // this, this
// main.cpp:44:     LinkedList() : head(NULL) {}
        ldr     x0, [sp, 8]     // tmp92, this
        str     xzr, [x0]       //, this_2(D)→head
// main.cpp:44:     LinkedList() : head(NULL) {}
        nop
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1665:
        .size   _ZN10LinkedListC2Ev, .-_ZN10LinkedListC2Ev
        .weak   _ZN10LinkedListC1Ev
        .set    _ZN10LinkedListC1Ev,_ZN10LinkedListC2Ev
        .section        .rodata
        .align  3
.LC1:
        .string "Heap Memory Consumption: %zu bytes | Number of Nodes: %zu"
        .text
        .align  2
        .global _Z19display_memory_infomm
        .type   _Z19display_memory_infomm, %function
_Z19display_memory_infomm:
.LFB1667:
        .cfi_startproc
        str     x30, [sp, -32]! //,
        .cfi_def_cfa_offset 32
        .cfi_offset 30, -32
        str     x0, [sp, 24]    // memory, memory
        str     x1, [sp, 16]    // nodes, nodes
// main.cpp:51:     attron(A_BOLD);
        adrp    x0, :got:stdscr // tmp95,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp94, tmp95,
        ldr     x0, [x0]        // stdscr.6_1, stdscr
```

```
        mov     x2, 0   //,
        mov     w1, 2097152     //,
        bl      wattr_on        //
// main.cpp:52:     mvprintw(1, 0, "Heap Memory Consumption: %zu bytes | Number of Nodes: %zu
", memory, nodes);
        ldr     x4, [sp, 16]    //, nodes
        ldr     x3, [sp, 24]    //, memory
        adrp    x0, .LC1        // tmp96,
        add     x2, x0, :lo12:.LC1      //, tmp96,
        mov     w1, 0   //,
        mov     w0, 1   //,
        bl      mvprintw        //
// main.cpp:53:     attroff(A_BOLD);
        adrp    x0, :got:stdscr // tmp98,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp97, tmp98,
        ldr     x0, [x0]        // stdscr.7_2, stdscr
        mov     x2, 0   //,
        mov     w1, 2097152     //,
        bl      wattr_off       //
// main.cpp:54: }
        nop
        ldr     x30, [sp], 32   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1667:
        .size   _Z19display_memory_infomm, .-_Z19display_memory_infomm
        .align  2
        .global _Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11
char_traitsIcESaIcEEE
        .type   _Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11
char_traitsIcESaIcEEE, %function
_Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESa
IcEEE:
.LFB1668:
        .cfi_startproc
        str     x30, [sp, -48]! //,
        .cfi_def_cfa_offset 48
        .cfi_offset 30, -48
        str     x0, [sp, 24]    // list, list
        str     x1, [sp, 16]    // line, line
// main.cpp:60:     Node *new_node = make_node(line);
        ldr     x0, [sp, 16]    //, line
        bl      _Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EE      //
        str     x0, [sp, 32]    // _8, new_node
// main.cpp:61:     if (!list.head)
        ldr     x0, [sp, 24]    // tmp97, list
        ldr     x0, [x0]        // _1, list_10(D)→head
// main.cpp:61:     if (!list.head)
        cmp     x0, 0   // _1,
        bne     .L16            //,
// main.cpp:63:         list.head = new_node;
        ldr     x0, [sp, 24]    // tmp98, list
        ldr     x1, [sp, 32]    // tmp99, new_node
        str     x1, [x0]        // tmp99, list_10(D)→head
        b       .L17            //
.L16:
// main.cpp:67:         Node *last = list.head;
        ldr     x0, [sp, 24]    // tmp100, list
        ldr     x0, [x0]        // tmp101, list_10(D)→head
```

```
        str     x0, [sp, 40]     // tmp101, last
// main.cpp:68:          while (last→next)
        b       .L18             //
.L19:
// main.cpp:70:          last = last→next;
        ldr     x0, [sp, 40]     // tmp102, last
        ldr     x0, [x0, 32]     // tmp103, last_3→next
        str     x0, [sp, 40]     // tmp103, last
.L18:
// main.cpp:68:          while (last→next)
        ldr     x0, [sp, 40]     // tmp104, last
        ldr     x0, [x0, 32]     // _2, last_3→next
        cmp     x0, 0    // _2,
        bne     .L19             //,
// main.cpp:72:          last→next = new_node;
        ldr     x0, [sp, 40]     // tmp105, last
        ldr     x1, [sp, 32]     // tmp106, new_node
        str     x1, [x0, 32]     // tmp106, last_3→next
.L17:
// main.cpp:74:    return new_node;
        ldr     x0, [sp, 32]     // _15, new_node
// main.cpp:75: }
        ldr     x30, [sp], 48    //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1668:
        .size   _Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11
char_traitsIcESaIcEEE, .-_Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_str
ingIcSt11char_traitsIcESaIcEEE
        .align  2
        .global _Z15list_erase_nextRP4Node
        .type   _Z15list_erase_nextRP4Node, %function
_Z15list_erase_nextRP4Node:
.LFB1669:
        .cfi_startproc
        str     x30, [sp, -48]! //,
        .cfi_def_cfa_offset 48
        .cfi_offset 30, -48
        str     x0, [sp, 24]     // node, node
// main.cpp:81:    if (node→next)
        ldr     x0, [sp, 24]     // tmp97, node
        ldr     x0, [x0]         // _1, *node_8(D)
// main.cpp:81:    if (node→next)
        ldr     x0, [x0, 32]     // _2, _1→next
// main.cpp:81:    if (node→next)
        cmp     x0, 0    // _2,
        beq     .L23             //,
// main.cpp:83:          Node *tmp = node→next;
        ldr     x0, [sp, 24]     // tmp98, node
        ldr     x0, [x0]         // _3, *node_8(D)
// main.cpp:83:          Node *tmp = node→next;
        ldr     x0, [x0, 32]     // tmp99, _3→next
        str     x0, [sp, 40]     // tmp99, tmp
// main.cpp:84:          node→next = tmp→next;
        ldr     x0, [sp, 24]     // tmp100, node
        ldr     x0, [x0]         // _4, *node_8(D)
// main.cpp:84:          node→next = tmp→next;
        ldr     x1, [sp, 40]     // tmp101, tmp
        ldr     x1, [x1, 32]     // _5, tmp_9→next
// main.cpp:84:          node→next = tmp→next;
```

```
        str     x1, [x0, 32]     // _5, _4→next
// main.cpp:85:          destroy_node(tmp);
        ldr     x0, [sp, 40]     //, tmp
        bl      _Z12destroy_nodeP4Node            //
.L23:
// main.cpp:87: }
        nop
        ldr     x30, [sp], 48    //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1669:
        .size   _Z15list_erase_nextRP4Node, .-_Z15list_erase_nextRP4Node
        .align  2
        .global _Z10list_clearR10LinkedList
        .type   _Z10list_clearR10LinkedList, %function
_Z10list_clearR10LinkedList:
.LFB1670:
        .cfi_startproc
        str     x30, [sp, -48]! //,
        .cfi_def_cfa_offset 48
        .cfi_offset 30, -48
        str     x0, [sp, 24]     // list, list
// main.cpp:93:    Node *current = list.head;
        ldr     x0, [sp, 24]     // tmp92, list
        ldr     x0, [x0]         // tmp93, list_4(D)→head
        str     x0, [sp, 40]     // tmp93, current
// main.cpp:94:    while (current)
        b       .L25             //
.L26:
// main.cpp:96:          Node *tmp = current→next;
        ldr     x0, [sp, 40]     // tmp94, current
        ldr     x0, [x0, 32]     // tmp95, current_1→next
        str     x0, [sp, 32]     // tmp95, tmp
// main.cpp:97:          destroy_node(current);
        ldr     x0, [sp, 40]     //, current
        bl      _Z12destroy_nodeP4Node            //
// main.cpp:98:          current = tmp;
        ldr     x0, [sp, 32]     // tmp96, tmp
        str     x0, [sp, 40]     // tmp96, current
.L25:
// main.cpp:94:    while (current)
        ldr     x0, [sp, 40]     // tmp97, current
        cmp     x0, 0    // tmp97,
        bne     .L26             //,
// main.cpp:100:   list.head = NULL;
        ldr     x0, [sp, 24]     // tmp98, list
        str     xzr, [x0]        //, list_4(D)→head
// main.cpp:101: }
        nop
        ldr     x30, [sp], 48    //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1670:
        .size   _Z10list_clearR10LinkedList, .-_Z10list_clearR10LinkedList
        .align  2
        .global _Z9list_sizeR10LinkedList
        .type   _Z9list_sizeR10LinkedList, %function
_Z9list_sizeR10LinkedList:
```

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.LFB1671:
        .cfi_startproc
        sub     sp, sp, #32     //,,
        .cfi_def_cfa_offset 32
        str     x0, [sp, 8]     // list, list
// main.cpp:107:     size_t size = 0;
        str     xzr, [sp, 24]   //, size
// main.cpp:108:     Node *current = list.head;
        ldr     x0, [sp, 8]     // tmp94, list
        ldr     x0, [x0]        // tmp95, list_5(D)→head
        str     x0, [sp, 16]    // tmp95, current
// main.cpp:109:     while (current)
        b       .L28            //
.L29:
// main.cpp:111:         size++;
        ldr     x0, [sp, 24]    // tmp97, size
        add     x0, x0, 1       // tmp96, tmp97,
        str     x0, [sp, 24]    // tmp96, size
// main.cpp:112:         current = current→next;
        ldr     x0, [sp, 16]    // tmp98, current
        ldr     x0, [x0, 32]    // tmp99, current_2→next
        str     x0, [sp, 16]    // tmp99, current
.L28:
// main.cpp:109:     while (current)
        ldr     x0, [sp, 16]    // tmp100, current
        cmp     x0, 0   // tmp100,
        bne     .L29            //,
// main.cpp:114:     return size;
        ldr     x0, [sp, 24]    // _7, size
// main.cpp:115: }
        add     sp, sp, 32      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1671:
        .size   _Z9list_sizeR10LinkedList, .-_Z9list_sizeR10LinkedList
        .align  2
        .global _Z12list_advanceP4Nodei
        .type   _Z12list_advanceP4Nodei, %function
_Z12list_advanceP4Nodei:
.LFB1672:
        .cfi_startproc
        sub     sp, sp, #16     //,,
        .cfi_def_cfa_offset 16
        str     x0, [sp, 8]     // node, node
        str     w1, [sp, 4]     // n, n
// main.cpp:121:     while (n-- > 0 && node)
        b       .L32            //
.L35:
// main.cpp:123:         node = node→next;
        ldr     x0, [sp, 8]     // tmp96, node
        ldr     x0, [x0, 32]    // tmp97, node_2→next
        str     x0, [sp, 8]     // tmp97, node
.L32:
// main.cpp:121:     while (n-- > 0 && node)
        ldr     w0, [sp, 4]     // n.10_1, n
        sub     w1, w0, #1      // tmp98, n.10_1,
        str     w1, [sp, 4]     // tmp98, n
// main.cpp:121:     while (n-- > 0 && node)
        cmp     w0, 0   // n.10_1,
        ble     .L33            //,
// main.cpp:121:     while (n-- > 0 && node)
```

```
        ldr     x0, [sp, 8]     // tmp99, node
        cmp     x0, 0   // tmp99,
        beq     .L33            //,
// main.cpp:121:     while (n-- > 0 && node)
        mov     w0, 1   // iftmp.9_4,
        b       .L34            //
.L33:
// main.cpp:121:     while (n-- > 0 && node)
        mov     w0, 0   // iftmp.9_4,
.L34:
// main.cpp:121:     while (n-- > 0 && node)
        cmp     w0, 0   // iftmp.9_4,
        bne     .L35            //,
// main.cpp:125:     return node;
        ldr     x0, [sp, 8]     // _11, node
// main.cpp:126: }
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1672:
        .size   _Z12list_advanceP4Nodei, .-_Z12list_advanceP4Nodei
        .align  2
        .global _Z9open_filePKcR10LinkedListRmS3_
        .type   _Z9open_filePKcR10LinkedListRmS3_, %function
_Z9open_filePKcR10LinkedListRmS3_:
.LFB1673:
        .cfi_startproc
        .cfi_personality 0x9b,DW.ref.__gxx_personality_v0
        .cfi_lsda 0x1b,.LLSDA1673
        sub     sp, sp, #624    //,,
        .cfi_def_cfa_offset 624
        stp     x19, x30, [sp]  //,,
        .cfi_offset 19, -624
        .cfi_offset 30, -616
        str     x0, [sp, 40]    // filename, filename
        str     x1, [sp, 32]    // lines, lines
        str     x2, [sp, 24]    // memory, memory
        str     x3, [sp, 16]    // nodes, nodes
// main.cpp:132:     std::ifstream infile(filename);
        add     x0, sp, 88      // tmp111,,
        mov     w2, 8   //,
        ldr     x1, [sp, 40]    //, filename
.LEHB3:
        bl      _ZNSt14basic_ifstreamIcSt11char_traitsIcEEC1EPKcSt13_Ios_Openmode
                                //
.LEHE3:
// main.cpp:133:     if (!infile.is_open())
        add     x0, sp, 88      // tmp112,,
.LEHB4:
        bl      _ZNSt14basic_ifstreamIcSt11char_traitsIcEE7is_openEv
                                //
.LEHE4:
        and     w0, w0, 255     // _1, tmp113
// main.cpp:133:     if (!infile.is_open())
        eor     w0, w0, 1       // tmp114, _1,
        and     w0, w0, 255     // retval.11_25, tmp114
// main.cpp:133:     if (!infile.is_open())
        cmp     w0, 0   // retval.11_25,
        beq     .L38            //,
// main.cpp:135:         return;
        mov     w19, 0 // finally_tmp.13_13,
```

```
        b       .L39            //
.L38:
// main.cpp:138:    std::string line;
        add     x0, sp, 56      // tmp115,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1Ev
//
// main.cpp:139:       while (std::getline(infile, line))
        b       .L40            //
.L41:
// main.cpp:141:          Node *new_node = list_push_back(lines, line);
        add     x0, sp, 56      // tmp116,,
        mov     x1, x0 //, tmp116
        ldr     x0, [sp, 32]    //, lines
.LEHB5:
        bl      _Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11
char_traitsIcESaIcEEE           //
// main.cpp:141:          Node *new_node = list_push_back(lines, line);
        str     x0, [sp, 616]   // _38, new_node
// main.cpp:142:          memory += new_node→line.size() * sizeof(char) + sizeof
(Node);
        ldr     x0, [sp, 616]   // _2, new_node
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4sizeEv
//
// main.cpp:142:          memory += new_node→line.size() * sizeof(char) + sizeof
(Node);
        add     x1, x0, 40      // _41, _3,
// main.cpp:142:          memory += new_node→line.size() * sizeof(char) + sizeof
(Node);
        ldr     x0, [sp, 24]    // tmp117, memory
        ldr     x0, [x0]        // _4, *memory_42(D)
        add     x1, x1, x0      // _5, _41, _4
        ldr     x0, [sp, 24]    // tmp118, memory
        str     x1, [x0]        // _5, *memory_42(D)
// main.cpp:143:          nodes++;
        ldr     x0, [sp, 16]    // tmp119, nodes
        ldr     x0, [x0]        // _6, *nodes_44(D)
// main.cpp:143:          nodes++;
        add     x1, x0, 1       // _7, _6,
        ldr     x0, [sp, 16]    // tmp120, nodes
        str     x1, [x0]        // _7, *nodes_44(D)
.L40:
// main.cpp:139:       while (std::getline(infile, line))
        add     x1, sp, 56      // tmp121,,
        add     x0, sp, 88      // tmp122,,
        bl      _ZSt7getlineIcSt11char_traitsIcESaIcEERSt13basic_istreamIT_T0_ES
7_RNSt7__cxx1112basic_stringIS4_S5_T1_EE         //
// main.cpp:139:       while (std::getline(infile, line))
        ldr     x1, [x0]        // _8, _29→_vptr.basic_istream
        sub     x1, x1, #24     // _9, _8,
        ldr     x1, [x1]        // _10, MEM[(long int *)_9]
        add     x0, x0, x1      // _12, _28, _11
        bl      _ZNKSt9basic_iosIcSt11char_traitsIcEEcvbEv          //
// main.cpp:139:       while (std::getline(infile, line))
        and     w0, w0, 255     // _31, tmp123
        cmp     w0, 0   // _31,
        bne     .L41            //,
// main.cpp:145:      infile.close();
        add     x0, sp, 88      // tmp124,,
        bl      _ZNSt14basic_ifstreamIcSt11char_traitsIcEE5closeEv
//
.LEHE5:
// main.cpp:146: }
```

```
        add     x0, sp, 56      // tmp125,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        mov     w19, 1 // finally_tmp.13_13,
.L39:
// main.cpp:146: }
        add     x0, sp, 88      // tmp126,,
        bl      _ZNSt14basic_ifstreamIcSt11char_traitsIcEED1Ev          //
        cmp     w19, 1 // finally_tmp.13_13,
        b       .L48            //
.L47:
// main.cpp:146: }
        mov     x19, x0 // tmp129,
        add     x0, sp, 56      // tmp127,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        b       .L45            //
.L46:
        mov     x19, x0 // tmp128,
.L45:
        add     x0, sp, 88      // tmp132,,
        bl      _ZNSt14basic_ifstreamIcSt11char_traitsIcEED1Ev          //
        mov     x0, x19 // D.49579, tmp128
.LEHB6:
        bl      _Unwind_Resume          //
.LEHE6:
.L48:
        ldp     x19, x30, [sp]  //,,
        add     sp, sp, 624     //,,
        .cfi_restore 19
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1673:
        .section        .gcc_except_table
.LLSDA1673:
        .byte   0xff
        .byte   0xff
        .byte   0x1
        .uleb128 .LLSDACSE1673-.LLSDACSB1673
.LLSDACSB1673:
        .uleb128 .LEHB3-.LFB1673
        .uleb128 .LEHE3-.LEHB3
        .uleb128 0
        .uleb128 0
        .uleb128 .LEHB4-.LFB1673
        .uleb128 .LEHE4-.LEHB4
        .uleb128 .L46-.LFB1673
        .uleb128 0
        .uleb128 .LEHB5-.LFB1673
        .uleb128 .LEHE5-.LEHB5
        .uleb128 .L47-.LFB1673
        .uleb128 0
        .uleb128 .LEHB6-.LFB1673
        .uleb128 .LEHE6-.LEHB6
        .uleb128 0
        .uleb128 0
.LLSDACSE1673:
        .text
        .size   _Z9open_filePKcR10LinkedListRmS3_, .-_Z9open_filePKcR10LinkedLis
tRmS3_
```

```
        .align  2
        .global _Z9save_filePKcRK10LinkedList
        .type   _Z9save_filePKcRK10LinkedList, %function
_Z9save_filePKcRK10LinkedList:
.LFB1675:
        .cfi_startproc
        .cfi_personality 0x9b,DW.ref.__gxx_personality_v0
        .cfi_lsda 0x1b,.LLSDA1675
        sub     sp, sp, #560    //,,
        .cfi_def_cfa_offset 560
        stp     x19, x30, [sp]  //,,
        .cfi_offset 19, -560
        .cfi_offset 30, -552
        str     x0, [sp, 24]    // filename, filename
        str     x1, [sp, 16]    // lines, lines
// main.cpp:152:    std::ofstream outfile(filename);
        add     x0, sp, 32      // tmp98,,
        mov     w2, 16  //,
        ldr     x1, [sp, 24]    //, filename
.LEHB7:
        bl      _ZNSt14basic_ofstreamIcSt11char_traitsIcEEC1EPKcSt13_Ios_Openmod
e       //
.LEHE7:
// main.cpp:153:    if (!outfile.is_open())
        add     x0, sp, 32      // tmp99,,
.LEHB8:
        bl      _ZNSt14basic_ofstreamIcSt11char_traitsIcEE7is_openEv
//
        and     w0, w0, 255     // _1, tmp100
// main.cpp:153:    if (!outfile.is_open())
        eor     w0, w0, 1       // tmp101, _1,
        and     w0, w0, 255     // retval.14_16, tmp101
// main.cpp:153:    if (!outfile.is_open())
        cmp     w0, 0   // retval.14_16,
        beq     .L50    //,
// main.cpp:155:    return;
        mov     w19, 0  // finally_tmp.15_5,
        b       .L51    //
.L50:
// main.cpp:158:    Node *current = lines.head;
        ldr     x0, [sp, 16]    // tmp102, lines
        ldr     x0, [x0]        // tmp103, lines_17(D)→head
        str     x0, [sp, 552]   // tmp103, current
// main.cpp:159:    while (current)
        b       .L52    //
.L53:
// main.cpp:161:        outfile << current→line << '\n';
        ldr     x1, [sp, 552]   // _2, current
// main.cpp:161:        outfile << current→line << '\n';
        add     x0, sp, 32      // tmp104,,
        bl      _ZStlsIcSt11char_traitsIcESaIcEERSt13basic_ostreamIT_T0_ES7_RKNS
t7__cxx1112basic_stringIS4_S5_T1_EE             //
        mov     w1, 10  //,
        bl      _ZStlsISt11char_traitsIcEERSt13basic_ostreamIcT_ES5_c
//
// main.cpp:162:        current = current→next;
        ldr     x0, [sp, 552]   // tmp105, current
        ldr     x0, [x0, 32]    // tmp106, current_4→next
        str     x0, [sp, 552]   // tmp106, current
.L52:
// main.cpp:159:    while (current)
        ldr     x0, [sp, 552]   // tmp107, current
```

```
        cmp     x0, 0   // tmp107,
        bne     .L53    //,
// main.cpp:164:    outfile.close();
        add     x0, sp, 32      // tmp108,,
        bl      _ZNSt14basic_ofstreamIcSt11char_traitsIcEE5closeEv
//
.LEHE8:
// main.cpp:165: }
        mov     w19, 1  // finally_tmp.15_5,
.L51:
// main.cpp:165: }
        add     x0, sp, 32      // tmp109,,
        bl      _ZNSt14basic_ofstreamIcSt11char_traitsIcEED1Ev         //
        cmp     w19, 1  // finally_tmp.15_5,
        b       .L58    //
.L57:
// main.cpp:165: }
        mov     x19, x0 // tmp111,
        add     x0, sp, 32      // tmp110,,
        bl      _ZNSt14basic_ofstreamIcSt11char_traitsIcEED1Ev         //
        mov     x0, x19 // D.49580, tmp111
.LEHB9:
        bl      _Unwind_Resume          //
.LEHE9:
.L58:
        ldp     x19, x30, [sp]  //,,,
        add     sp, sp, 560     //,,
        .cfi_restore 19
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1675:
        .section        .gcc_except_table
.LLSDA1675:
        .byte   0xff
        .byte   0xff
        .byte   0x1
        .uleb128 .LLSDACSE1675-.LLSDACSB1675
.LLSDACSB1675:
        .uleb128 .LEHB7-.LFB1675
        .uleb128 .LEHE7-.LEHB7
        .uleb128 0
        .uleb128 0
        .uleb128 .LEHB8-.LFB1675
        .uleb128 .LEHE8-.LEHB8
        .uleb128 .L57-.LFB1675
        .uleb128 0
        .uleb128 .LEHB9-.LFB1675
        .uleb128 .LEHE9-.LEHB9
        .uleb128 0
        .uleb128 0
.LLSDACSE1675:
        .text
        .size   _Z9save_filePKcRK10LinkedList, .-_Z9save_filePKcRK10LinkedList
        .section        .rodata
        .align  3
.LC2:
        .string "%s"
        .text
        .align  2
        .global _Z14get_user_inputB5cxx11PKc
```

```
        .type   _Z14get_user_inputB5cxx11PKc, %function
_Z14get_user_inputB5cxx11PKc:
.LFB1676:
        .cfi_startproc
        .cfi_personality 0x9b,DW.ref.__gxx_personality_v0
        .cfi_lsda 0x1b,.LLSDA1676
        stp     x19, x30, [sp, -304]!   //,,,
        .cfi_def_cfa_offset 304
        .cfi_offset 19, -304
        .cfi_offset 30, -296
        mov     x19, x8 // <retval>,
        str     x0, [sp, 24]    // prompt, prompt
.LEHB10:
// main.cpp:171:      nocbreak();
        bl      nocbreak                //
// main.cpp:172:      echo();
        bl      echo            //
// main.cpp:173:      curs_set(TRUE);
        mov     w0, 1   //,
        bl      curs_set                //
// main.cpp:176:      mvprintw(LINES - 1, 0, "%s", prompt);
        adrp    x0, :got:LINES  // tmp98,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp97, tmp98,
        ldr     w0, [x0]        // LINES.16_1, LINES
        sub     w4, w0, #1      // _2, LINES.16_1,
        ldr     x3, [sp, 24]    //, prompt
        adrp    x0, .LC2        // tmp99,
        add     x2, x0, :lo12:.LC2      //, tmp99,
        mov     w1, 0   //,
        mov     w0, w4  //, _2
        bl      mvprintw                //
// main.cpp:177:      getstr(input);
        adrp    x0, :got:stdscr // tmp101,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp100, tmp101,
        ldr     x0, [x0]        // stdscr.17_3, stdscr
        add     x1, sp, 40      // tmp102,,
        mov     w2, -1  //,
        bl      wgetnstr                //
// main.cpp:179:      curs_set(FALSE);
        mov     w0, 0   //,
        bl      curs_set                //
// main.cpp:180:      noecho();
        bl      noecho          //
// main.cpp:181:      cbreak();
        bl      cbreak          //
.LEHE10:
// main.cpp:183:      return std::string(input);
        add     x0, sp, 296     // tmp103,,
        bl      _ZNSaIcEC1Ev            //
        add     x1, sp, 296     // tmp104,,
        add     x0, sp, 40      // tmp105,,
        mov     x2, x1  //, tmp104
        mov     x1, x0  //, tmp105
        mov     x0, x19 //, <retval>
.LEHB11:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1EPKcRKS3_
        //
.LEHE11:
        add     x0, sp, 296     // tmp106,,
        bl      _ZNSaIcED1Ev            //
        b       .L63            //
.L62:
```

```
        mov     x19, x0 // tmp109,
        add     x0, sp, 296     // tmp108,,
        bl      _ZNSaIcED1Ev            //
        mov     x0, x19 // D.49581, tmp109
.LEHB12:
        bl      _Unwind_Resume          //
.LEHE12:
.L63:
// main.cpp:184: }
        mov     x0, x19 //, <retval>
        ldp     x19, x30, [sp], 304     //,,,
        .cfi_restore 30
        .cfi_restore 19
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1676:
        .section        .gcc_except_table
.LLSDA1676:
        .byte   0xff
        .byte   0xff
        .byte   0x1
        .uleb128 .LLSDACSE1676-.LLSDACSB1676
.LLSDACSB1676:
        .uleb128 .LEHB10-.LFB1676
        .uleb128 .LEHE10-.LEHB10
        .uleb128 0
        .uleb128 0
        .uleb128 .LEHB11-.LFB1676
        .uleb128 .LEHE11-.LEHB11
        .uleb128 .L62-.LFB1676
        .uleb128 0
        .uleb128 .LEHB12-.LFB1676
        .uleb128 .LEHE12-.LEHB12
        .uleb128 0
        .uleb128 0
.LLSDACSE1676:
        .text
        .size   _Z14get_user_inputB5cxx11PKc, .-_Z14get_user_inputB5cxx11PKc
        .align  2
        .global _Z16highlight_searchmmi
        .type   _Z16highlight_searchmmi, %function
_Z16highlight_searchmmi:
.LFB1677:
        .cfi_startproc
        str     x30, [sp, -64]! //,
        .cfi_def_cfa_offset 64
        .cfi_offset 30, -64
        str     x0, [sp, 40]    // found_pos, found_pos
        str     x1, [sp, 32]    // search_length, search_length
        str     w2, [sp, 28]    // y, y
// main.cpp:190:      attron(COLOR_PAIR(1));
        adrp    x0, :got:stdscr // tmp111,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp110, tmp111,
        ldr     x0, [x0]        // stdscr.25_1, stdscr
        mov     x2, 0   //,
        mov     w1, 256 //,
        bl      wattr_on                //
// main.cpp:191:      for (size_t i = 0; i < search_length; i++)
        str     xzr, [sp, 56]   //, i
// main.cpp:191:      for (size_t i = 0; i < search_length; i++)
        b       .L65            //
```

```
.L69:
// main.cpp:193:          chtype original_char = mvinch(y, found_pos + i);
        adrp    x0, :got:stdscr // tmp113,
        ldr     x0, [x0, #:got_lo12:stdscr]       // tmp112, tmp113,
        ldr     x0, [x0]        // stdscr.27_2, stdscr
        ldr     x1, [sp, 40]    // tmp114, found_pos
        mov     w2, w1  // _3, tmp114
        ldr     x1, [sp, 56]    // tmp115, i
        add     w1, w2, w1      // _5, _3, _4
        mov     w2, w1  //, _6
        ldr     w1, [sp, 28]    //, y
        bl      wmove           //
        cmn     w0, #1  // _7,
        beq     .L66            //,
// main.cpp:193:          chtype original_char = mvinch(y, found_pos + i);
        adrp    x0, :got:stdscr // tmp117,
        ldr     x0, [x0, #:got_lo12:stdscr]       // tmp116, tmp117,
        ldr     x0, [x0]        // stdscr.28_8, stdscr
        bl      winch           //
        b       .L67            //
.L66:
// main.cpp:193:          chtype original_char = mvinch(y, found_pos + i);
        mov     w0, -1 // _34,
.L67:
// main.cpp:193:          chtype original_char = mvinch(y, found_pos + i);
        str     w0, [sp, 52]    // _34, original_char
// main.cpp:194:          chtype new_char = (original_char & A_CHARTEXT) | (COLOR
_PAIR(1));
        ldr     w0, [sp, 52]    // tmp118, original_char
        and     w0, w0, 255     // _9, tmp118,
// main.cpp:194:          chtype new_char = (original_char & A_CHARTEXT) | (COLOR
_PAIR(1));
        orr     w0, w0, 256     // tmp119, _9,
        str     w0, [sp, 48]    // tmp119, new_char
// main.cpp:195:          mvaddch(y, found_pos + i, new_char);
        adrp    x0, :got:stdscr // tmp121,
        ldr     x0, [x0, #:got_lo12:stdscr]       // tmp120, tmp121,
        ldr     x0, [x0]        // stdscr.29_10, stdscr
        ldr     x1, [sp, 40]    // tmp122, found_pos
        mov     w2, w1 // _11, tmp122
        ldr     x1, [sp, 56]    // tmp123, i
        add     w1, w2, w1      // _13, _11, _12
        mov     w2, w1  //, _14
        ldr     w1, [sp, 28]    //, y
        bl      wmove           //
        cmn     w0, #1 // _15,
        beq     .L68            //,
// main.cpp:195:          mvaddch(y, found_pos + i, new_char);
        adrp    x0, :got:stdscr // tmp125,
        ldr     x0, [x0, #:got_lo12:stdscr]       // tmp124, tmp125,
        ldr     x0, [x0]        // stdscr.30_16, stdscr
        ldr     w1, [sp, 48]    //, new_char
        bl      waddch          //
.L68:
// main.cpp:191:        for (size_t i = 0; i < search_length; i++)
        ldr     x0, [sp, 56]    // tmp127, i
        add     x0, x0, 1       // tmp126, tmp127,
        str     x0, [sp, 56]    // tmp126, i
.L65:
// main.cpp:191:        for (size_t i = 0; i < search_length; i++)
        ldr     x1, [sp, 56]    // tmp128, i
        ldr     x0, [sp, 32]    // tmp129, search_length
```

```
        cmp     x1, x0  // tmp128, tmp129
        bcc     .L69            //,
// main.cpp:197:      attroff(COLOR_PAIR(1));
        adrp    x0, :got:stdscr // tmp131,
        ldr     x0, [x0, #:got_lo12:stdscr]       // tmp130, tmp131,
        ldr     x0, [x0]        // stdscr.31_17, stdscr
        mov     x2, 0   //,
        mov     w1, 256 //,
        bl      wattr_off               //
// main.cpp:198: }
        nop
        ldr     x30, [sp], 64   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1677:
        .size   _Z16highlight_searchmmi, .-_Z16highlight_searchmmi
        .align  2
        .global _Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11cha
r_traitsIcESaIcEEERiS9_S9_RP4Node
        .type   _Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11cha
r_traitsIcESaIcEEERiS9_S9_RP4Node, %function
_Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EERiS9_S9_RP4Node:
.LFB1678:
        .cfi_startproc
        str     x30, [sp, -112]!        //,
        .cfi_def_cfa_offset 112
        .cfi_offset 30, -112
        str     x0, [sp, 56]    // lines, lines
        str     x1, [sp, 48]    // search_str, search_str
        str     x2, [sp, 40]    // cursor_x, cursor_x
        str     x3, [sp, 32]    // cursor_y, cursor_y
        str     x4, [sp, 24]    // scroll_offset, scroll_offset
        str     x5, [sp, 16]    // current_line, current_line
// main.cpp:205:   if (search_str.empty())
        ldr     x0, [sp, 48]    //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5emptyEv
//
        and     w0, w0, 255     // retval.32_56, tmp135
// main.cpp:205:   if (search_str.empty())
        cmp     w0, 0   // retval.32_56,
        bne     .L80            //,
// main.cpp:208:     bool first_instance = true;
        mov     w0, 1   // tmp136,
        strb    w0, [sp, 111]   // tmp136, first_instance
// main.cpp:210:     Node *line_it = lines.head;
        ldr     x0, [sp, 56]    // tmp137, lines
        ldr     x0, [x0]        // tmp138, lines_58(D)->head
        str     x0, [sp, 96]    // tmp138, line_it
// main.cpp:211:     size_t line_idx = 0;
        str     xzr, [sp, 88]   //, line_idx
// main.cpp:212:     while (line_it)
        b       .L73            //
.L79:
// main.cpp:214:        std::string &line = line_it->line;
        ldr     x0, [sp, 96]    // tmp139, line_it
        str     x0, [sp, 72]    // tmp139, line
// main.cpp:215:        size_t found_pos = 0;
        str     xzr, [sp, 80]   //, found_pos
// main.cpp:217:          while ((found_pos = line.find(search_str, found_pos)) ≠
```

```
 std::string::npos)
        b       .L74            //
.L78:
// main.cpp:219:                 if (first_instance)
        ldrb    w0, [sp, 111]   // tmp140, first_instance
        cmp     w0, 0   // tmp140,
        beq     .L75            //,
// main.cpp:221:                     cursor_x = found_pos;
        ldr     x0, [sp, 80]    // tmp141, found_pos
        mov     w1, w0  // _1, tmp141
        ldr     x0, [sp, 40]    // tmp142, cursor_x
        str     w1, [x0]        // _1, *cursor_x_68(D)
// main.cpp:222:                     cursor_y = 3 - scroll_offset + line_idx;
        ldr     x0, [sp, 88]    // tmp143, line_idx
        mov     w1, w0  // _2, tmp143
// main.cpp:222:                     cursor_y = 3 - scroll_offset + line_idx;
        ldr     x0, [sp, 24]    // tmp144, scroll_offset
        ldr     w0, [x0]        // _3, *scroll_offset_70(D)
// main.cpp:222:                     cursor_y = 3 - scroll_offset + line_idx;
        sub     w0, w1, w0      // _5, _2, _4
        add     w0, w0, 3       // _6, _5,
        mov     w1, w0  // _7, _6
// main.cpp:222:                     cursor_y = 3 - scroll_offset + line_idx;
        ldr     x0, [sp, 32]    // tmp145, cursor_y
        str     w1, [x0]        // _7, *cursor_y_71(D)
// main.cpp:223:                     current_line = lines.head;
        ldr     x0, [sp, 56]    // tmp146, lines
        ldr     x1, [x0]        // _8, lines_58(D)→head
// main.cpp:223:                     current_line = lines.head;
        ldr     x0, [sp, 16]    // tmp147, current_line
        str     x1, [x0]        // _8, *current_line_73(D)
// main.cpp:224:                     current_line = list_advance(current_line, line_
idx);
        ldr     x0, [sp, 16]    // tmp148, current_line
        ldr     x0, [x0]        // _9, *current_line_73(D)
        ldr     x1, [sp, 88]    // tmp149, line_idx
        bl      _Z12list_advanceP4Nodei         //
        mov     x1, x0  // _11,
// main.cpp:224:                     current_line = list_advance(current_line, line_
idx);
        ldr     x0, [sp, 16]    // tmp150, current_line
        str     x1, [x0]        // _11, *current_line_73(D)
// main.cpp:226:                     if (cursor_y ≥ LINES - 1)
        ldr     x0, [sp, 32]    // tmp151, cursor_y
        ldr     w1, [x0]        // _12, *cursor_y_71(D)
// main.cpp:226:                     if (cursor_y ≥ LINES - 1)
        adrp    x0, :got:LINES  // tmp153,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp152, tmp153,
        ldr     w0, [x0]        // LINES.33_13, LINES
        sub     w0, w0, #1      // _14, LINES.33_13,
// main.cpp:226:                     if (cursor_y ≥ LINES - 1)
        cmp     w1, w0  // _12, _14
        blt     .L76            //,
// main.cpp:228:                         scroll_offset += cursor_y - (LINES - 2);
        ldr     x0, [sp, 24]    // tmp154, scroll_offset
        ldr     w1, [x0]        // _15, *scroll_offset_70(D)
// main.cpp:228:                         scroll_offset += cursor_y - (LINES - 2);
        ldr     x0, [sp, 32]    // tmp155, cursor_y
        ldr     w2, [x0]        // _16, *cursor_y_71(D)
// main.cpp:228:                         scroll_offset += cursor_y - (LINES - 2);
        adrp    x0, :got:LINES  // tmp157,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp156, tmp157,
```

```
        ldr     w0, [x0]        // LINES.34_17, LINES
        sub     w0, w0, #2      // _18, LINES.34_17,
// main.cpp:228:                         scroll_offset += cursor_y - (LINES - 2);
        sub     w0, w2, w0      // _19, _16, _18
// main.cpp:228:                         scroll_offset += cursor_y - (LINES - 2);
        add     w1, w1, w0      // _20, _15, _19
        ldr     x0, [sp, 24]    // tmp158, scroll_offset
        str     w1, [x0]        // _20, *scroll_offset_70(D)
// main.cpp:229:                         cursor_y = LINES - 2;
        adrp    x0, :got:LINES  // tmp160,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp159, tmp160,
        ldr     w0, [x0]        // LINES.35_21, LINES
        sub     w1, w0, #2      // _22, LINES.35_21,
// main.cpp:229:                         cursor_y = LINES - 2;
        ldr     x0, [sp, 32]    // tmp161, cursor_y
        str     w1, [x0]        // _22, *cursor_y_71(D)
.L76:
// main.cpp:232:                     first_instance = false;
        strb    wzr, [sp, 111]  //, first_instance
.L75:
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        ldr     x0, [sp, 24]    // tmp162, scroll_offset
        ldr     w0, [x0]        // _23, *scroll_offset_70(D)
        sxtw    x0, w0  // _24, _23
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        ldr     x1, [sp, 88]    // tmp163, line_idx
        sub     x0, x1, x0      // _25, tmp163, _24
        add     x0, x0, 3       // _26, _25,
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        cmp     x0, 2   // _26,
        bls     .L77            //,
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        ldr     x0, [sp, 24]    // tmp164, scroll_offset
        ldr     w0, [x0]        // _27, *scroll_offset_70(D)
        sxtw    x0, w0  // _28, _27
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        ldr     x1, [sp, 88]    // tmp165, line_idx
        sub     x0, x1, x0      // _29, tmp165, _28
        add     x1, x0, 3       // _30, _29,
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        adrp    x0, :got:LINES  // tmp167,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp166, tmp167,
        ldr     w0, [x0]        // LINES.36_31, LINES
        sub     w0, w0, #1      // _32, LINES.36_31,
        sxtw    x0, w0  // _33, _32
// main.cpp:235:                 if (3 + line_idx - scroll_offset ≥ 3 && 3 + line_id
x - scroll_offset < LINES - 1)
        cmp     x1, x0  // _30, _33
        bcs     .L77            //,
// main.cpp:237:                     highlight_search(found_pos, search_str.length()
, 3 + line_idx - scroll_offset);
        ldr     x0, [sp, 48]    //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6lengthEv
//
        mov     x1, x0  // _34,
// main.cpp:237:                     highlight_search(found_pos, search_str.length()
```

```
, 3 + line_idx - scroll_offset);
        ldr     x0, [sp, 88]     // tmp168, line_idx
        mov     w2, w0  // _35, tmp168
// main.cpp:237:                 highlight_search(found_pos, search_str.length()
, 3 + line_idx - scroll_offset);
        ldr     x0, [sp, 24]     // tmp169, scroll_offset
        ldr     w0, [x0]         // _36, *scroll_offset_70(D)
// main.cpp:237:                 highlight_search(found_pos, search_str.length()
, 3 + line_idx - scroll_offset);
        sub     w0, w2, w0       // _38, _35, _37
        add     w0, w0, 3        // _39, _38,
// main.cpp:237:                 highlight_search(found_pos, search_str.length()
, 3 + line_idx - scroll_offset);
        mov     w2, w0  //, _40
        ldr     x0, [sp, 80]     //, found_pos
        bl      _Z16highlight_searchmmi         //
.L77:
// main.cpp:240:             found_pos += search_str.length();
        ldr     x0, [sp, 48]     //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6lengthEv
//
        mov     x1, x0  // _83,
// main.cpp:240:             found_pos += search_str.length();
        ldr     x0, [sp, 80]     // tmp171, found_pos
        add     x0, x0, x1       // tmp170, tmp171, _83
        str     x0, [sp, 80]     // tmp170, found_pos
.L74:
// main.cpp:217:             while ((found_pos = line.find(search_str, found_pos)) ≠
 std::string::npos)
        ldr     x2, [sp, 80]     //, found_pos
        ldr     x1, [sp, 48]     //, search_str
        ldr     x0, [sp, 72]     //, line
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4findERKS4
_m              //
        str     x0, [sp, 80]     //, found_pos
// main.cpp:217:             while ((found_pos = line.find(search_str, found_pos)) ≠
 std::string::npos)
        ldr     x0, [sp, 80]     // tmp173, found_pos
        cmn     x0, #1 // tmp173,
        cset    w0, ne // tmp174,
        and     w0, w0, 255      // retval.37_65, tmp172
        cmp     w0, 0   // retval.37_65,
        bne     .L78             //,
// main.cpp:243:             ++line_idx;
        ldr     x0, [sp, 88]     // tmp176, line_idx
        add     x0, x0, 1        // tmp175, tmp176,
        str     x0, [sp, 88]     // tmp175, line_idx
// main.cpp:244:             line_it = line_it→next;
        ldr     x0, [sp, 96]     // tmp177, line_it
        ldr     x0, [x0, 32]     // tmp178, line_it_44→next
        str     x0, [sp, 96]     // tmp178, line_it
.L73:
// main.cpp:212:     while (line_it)
        ldr     x0, [sp, 96]     // tmp179, line_it
        cmp     x0, 0   // tmp179,
        bne     .L79             //,
        b       .L70             //
.L80:
// main.cpp:206:         return;
        nop
.L70:
// main.cpp:246: }
```

```
        ldr     x30, [sp], 112  //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1678:
        .size   _Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11cha
r_traitsIcESaIcEEERiS9_S9_RP4Node, .-_Z11search_textR10LinkedListRKNSt7__cxx1112
basic_stringIcSt11char_traitsIcESaIcEEERiS9_S9_RP4Node
        .align  2
        .global _Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11ch
ar_traitsIcESaIcEEES8_
        .type   _Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11ch
ar_traitsIcESaIcEEES8_, %function
_Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIc
EEES8_:
.LFB1679:
        .cfi_startproc
        stp     x19, x30, [sp, -64]!    //,,,
        .cfi_def_cfa_offset 64
        .cfi_offset 19, -64
        .cfi_offset 30, -56
        str     x0, [sp, 40]     // lines, lines
        str     x1, [sp, 32]     // search_str, search_str
        str     x2, [sp, 24]     // replace_str, replace_str
// main.cpp:252:     if (search_str.empty())
        ldr     x0, [sp, 32]     //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5emptyEv
//
        and     w0, w0, 255      // retval.38_10, tmp96
// main.cpp:252:     if (search_str.empty())
        cmp     w0, 0   // retval.38_10,
        bne     .L87             //,
// main.cpp:255:     Node *current = lines.head;
        ldr     x0, [sp, 40]     // tmp97, lines
        ldr     x0, [x0]         // tmp98, lines_11(D)→head
        str     x0, [sp, 56]     // tmp98, current
// main.cpp:256:     while (current)
        b       .L84             //
.L86:
// main.cpp:258:         size_t found_pos = current→line.find(search_str);
        ldr     x0, [sp, 56]     // _1, current
        mov     x2, 0   //,
        ldr     x1, [sp, 32]     //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4findERKS4
_m              //
        str     x0, [sp, 48]     //, found_pos
// main.cpp:260:         if (found_pos ≠ std::string::npos)
        ldr     x0, [sp, 48]     // tmp99, found_pos
        cmn     x0, #1 // tmp99,
        beq     .L85             //,
// main.cpp:262:             current→line.replace(found_pos, search_str.length(
), replace_str);
        ldr     x19, [sp, 56]    // _2, current
        ldr     x0, [sp, 32]     //, search_str
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6lengthEv
//
        ldr     x3, [sp, 24]     //, replace_str
        mov     x2, x0  //, _3
        ldr     x1, [sp, 48]     //, found_pos
        mov     x0, x19 //, _2
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE7replaceEmm
```

```
RKS4_            //
// main.cpp:263:             break;
        b       .L81            //
.L85:
// main.cpp:265:         current = current→next;
        ldr     x0, [sp, 56]    // tmp100, current
        ldr     x0, [x0, 32]    // tmp101, current_4→next
        str     x0, [sp, 56]    // tmp101, current
.L84:
// main.cpp:256:    while (current)
        ldr     x0, [sp, 56]    // tmp102, current
        cmp     x0, 0   // tmp102,
        bne     .L86            //,
        b       .L81            //
.L87:
// main.cpp:253:            return;
        nop
.L81:
// main.cpp:267: }
        ldp     x19, x30, [sp], 64      //,,,
        .cfi_restore 30
        .cfi_restore 19
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1679:
        .size   _Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11ch
ar_traitsIcESaIcEEES8_, .-_Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stri
ngIcSt11char_traitsIcESaIcEEES8_
        .align  2
        .global _Z12handle_mouseiiRiS_S_R10LinkedList
        .type   _Z12handle_mouseiiRiS_S_R10LinkedList, %function
_Z12handle_mouseiiRiS_S_R10LinkedList:
.LFB1680:
        .cfi_startproc
        str     x30, [sp, -80]! //,
        .cfi_def_cfa_offset 80
        .cfi_offset 30, -80
        str     w0, [sp, 60]    // x, x
        str     w1, [sp, 56]    // y, y
        str     x2, [sp, 48]    // cursor_x, cursor_x
        str     x3, [sp, 40]    // cursor_y, cursor_y
        str     x4, [sp, 32]    // scroll_offset, scroll_offset
        str     x5, [sp, 24]    // lines, lines
// main.cpp:273:    if (y ≡ 1)
        ldr     w0, [sp, 56]    // tmp97, y
        cmp     w0, 1   // tmp97,
        beq     .L92            //,
// main.cpp:278:    int max_y = std::min(LINES − 3, static_cast<int>(list_size(
lines)));
        adrp    x0, :got:LINES  // tmp99,
        ldr     x0, [x0, #:got_lo12:LINES]      // tmp98, tmp99,
        ldr     w0, [x0]        // LINES.39_1, LINES
        sub     w0, w0, #3      // _2, LINES.39_1,
        str     w0, [sp, 68]    // _2, D.45771
// main.cpp:278:    int max_y = std::min(LINES − 3, static_cast<int>(list_size(
lines)));
        ldr     x0, [sp, 24]    //, lines
        bl      _Z9list_sizeR10LinkedList               //
// main.cpp:278:    int max_y = std::min(LINES − 3, static_cast<int>(list_size(
lines)));
        str     w0, [sp, 72]    // _4, D.45772
```

```
// main.cpp:278:    int max_y = std::min(LINES − 3, static_cast<int>(list_size(
lines)));
        add     x1, sp, 72      // tmp100,,
        add     x0, sp, 68      // tmp101,,
        bl      _ZSt3minIiERKT_S2_S2_           //
// main.cpp:278:    int max_y = std::min(LINES − 3, static_cast<int>(list_size(
lines)));
        ldr     w0, [x0]        // tmp102, *_5
        str     w0, [sp, 76]    // tmp102, max_y
// main.cpp:279:    if (y ≥ 3 && y ≤ max_y)
        ldr     w0, [sp, 56]    // tmp103, y
        cmp     w0, 2   // tmp103,
        ble     .L91            //,
// main.cpp:279:    if (y ≥ 3 && y ≤ max_y)
        ldr     w1, [sp, 56]    // tmp104, y
        ldr     w0, [sp, 76]    // tmp105, max_y
        cmp     w1, w0  // tmp104, tmp105
        bgt     .L91            //,
// main.cpp:281:         cursor_x = x;
        ldr     x0, [sp, 48]    // tmp106, cursor_x
        ldr     w1, [sp, 60]    // tmp107, x
        str     w1, [x0]        // tmp107, *cursor_x_17(D)
// main.cpp:282:         cursor_y = y;
        ldr     x0, [sp, 40]    // tmp108, cursor_y
        ldr     w1, [sp, 56]    // tmp109, y
        str     w1, [x0]        // tmp109, *cursor_y_20(D)
        b       .L88            //
.L91:
// main.cpp:284:    else if (y > max_y)
        ldr     w1, [sp, 56]    // tmp110, y
        ldr     w0, [sp, 76]    // tmp111, max_y
        cmp     w1, w0  // tmp110, tmp111
        ble     .L88            //,
// main.cpp:286:         cursor_x = x;
        ldr     x0, [sp, 48]    // tmp112, cursor_x
        ldr     w1, [sp, 60]    // tmp113, x
        str     w1, [x0]        // tmp113, *cursor_x_17(D)
// main.cpp:287:         cursor_y = max_y;
        ldr     x0, [sp, 40]    // tmp114, cursor_y
        ldr     w1, [sp, 76]    // tmp115, max_y
        str     w1, [x0]        // tmp115, *cursor_y_20(D)
        b       .L88            //
.L92:
// main.cpp:275:            return;
        nop
.L88:
// main.cpp:289: }
        ldr     x30, [sp], 80   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1680:
        .size   _Z12handle_mouseiiRiS_S_R10LinkedList, .-_Z12handle_mouseiiRiS_S
_R10LinkedList
        .section        .rodata
        .align  3
.LC3:
        .string ""
        .align  3
.LC4:
        .string "Macro"
```

```
        .align  3
.LC5:
        .string "Search: "
        .align  3
.LC6:
        .string "Search for: "
        .align  3
.LC7:
        .string "Replace with: "
        .text
        .align  2
        .global main
        .type   main, %function
main:
.LFB1681:
        .cfi_startproc
        .cfi_personality 0x9b,DW.ref.__gxx_personality_v0
        .cfi_lsda 0x1b,.LLSDA1681
        stp     x19, x30, [sp, -416]!   //,,,
        .cfi_def_cfa_offset 416
        .cfi_offset 19, -416
        .cfi_offset 30, -408
        str     w0, [sp, 28]    // argc, argc
        str     x1, [sp, 16]    // argv, argv
.LEHB13:
// main.cpp:295:        initscr();
        bl      initscr         //
// main.cpp:296:        raw();
        bl      raw             //
// main.cpp:297:        keypad(stdscr, TRUE);
        adrp    x0, :got:stdscr // tmp275,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp274, tmp275,
        ldr     x0, [x0]        // stdscr.40_1, stdscr
        mov     w1, 1   //,
        bl      keypad          //
// main.cpp:298:        noecho();
        bl      noecho          //
.LEHE13:
// main.cpp:300:        size_t memory = 0;
        str     xzr, [sp, 240]  //, memory
// main.cpp:301:        size_t nodes = 0;
        str     xzr, [sp, 232]  //, nodes
// main.cpp:304:        int cursor_x = 0;
        str     wzr, [sp, 228]  //, cursor_x
// main.cpp:305:        int cursor_y = 3;
        mov     w0, 3   // tmp276,
        str     w0, [sp, 224]   // tmp276, cursor_y
// main.cpp:307:        int scroll_offset = 0;
        str     wzr, [sp, 220]  //, scroll_offset
// main.cpp:309:        LinkedList lines;
        add     x0, sp, 208     // tmp277,,
        bl      _ZN10LinkedListC1Ev             //
// main.cpp:310:        std::string filename;
        add     x0, sp, 176     // tmp278,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1Ev
//
// main.cpp:312:        if (argc > 1)
        ldr     w0, [sp, 28]    // tmp279, argc
        cmp     w0, 1   // tmp279,
        ble     .L94            //,
// main.cpp:314:          filename = argv[1];
        ldr     x0, [sp, 16]    // tmp280, argv
```

```
        add     x0, x0, 8       // _2, tmp280,
        ldr     x1, [x0]        // _3, *_2
        add     x0, sp, 176     // tmp281,,
.LEHB14:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEaSEPKc
//
// main.cpp:315:          open_file(filename.c_str(), lines, memory, nodes);
        add     x0, sp, 176     // tmp282,,
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5c_strEv
//
        mov     x4, x0  // _4,
        add     x2, sp, 232     // tmp283,,
        add     x1, sp, 240     // tmp284,,
        add     x0, sp, 208     // tmp285,,
        mov     x3, x2  //, tmp283
        mov     x2, x1  //, tmp284
        mov     x1, x0  //, tmp285
        mov     x0, x4  //, _4
        bl      _Z9open_filePKcR10LinkedListRmS3_               //
.LEHE14:
.L94:
// main.cpp:318:    if (!lines.head)
        ldr     x0, [sp, 208]   // _5, lines.head
// main.cpp:318:    if (!lines.head)
        cmp     x0, 0   // _5,
        bne     .L95            //,
// main.cpp:320:          list_push_back(lines, "");
        add     x0, sp, 280     // tmp286,,
        bl      _ZNSaIcEC1Ev            //
        add     x0, sp, 280     // tmp287,,
        add     x3, sp, 248     // tmp288,,
        mov     x2, x0  //, tmp287
        adrp    x0, .LC3        // tmp289,
        add     x1, x0, :lo12:.LC3      //, tmp289,
        mov     x0, x3  //, tmp288
.LEHB15:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1EPKcRKS3_
//
.LEHE15:
// main.cpp:320:          list_push_back(lines, "");
        add     x1, sp, 248     // tmp290,,
        add     x0, sp, 208     // tmp291,,
.LEHB16:
        bl      _Z14list_push_backR10LinkedListRKNSt7__cxx1112basic_stringIcSt11
char_traitsIcESaIcEEE            //
.LEHE16:
// main.cpp:320:          list_push_back(lines, "");
        add     x0, sp, 248     // tmp292,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        add     x0, sp, 280     // tmp293,,
        bl      _ZNSaIcED1Ev            //
// main.cpp:321:          nodes++;
        ldr     x0, [sp, 232]   // nodes.41_6, nodes
        add     x0, x0, 1       // _7, nodes.41_6,
        str     x0, [sp, 232]   // _7, nodes
.L95:
// main.cpp:324:    Node *current_line = lines.head;
        ldr     x0, [sp, 208]   // _8, lines.head
// main.cpp:324:    Node *current_line = lines.head;
        str     x0, [sp, 168]   // _8, current_line
// main.cpp:325:    std::string search_str;
```

```
        add     x0, sp, 136      // tmp294,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1Ev
//
// main.cpp:326:      std::string replace_str;
        add     x0, sp, 104      // tmp295,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEC1Ev
//
.LEHB17:
// main.cpp:328:     if (has_colors())
        bl      has_colors               //
        and     w0, w0, 255      // _234, tmp296
// main.cpp:328:     if (has_colors())
        cmp     w0, 0    // _234,
        beq     .L96             //,
// main.cpp:330:        start_color();
        bl      start_color              //
// main.cpp:331:        init_pair(1, COLOR_YELLOW, COLOR_BLACK);
        mov     w2, 0    //,
        mov     w1, 3    //,
        mov     w0, 1    //,
        bl      init_pair                //
.L96:
// main.cpp:334:    init_pair(1, COLOR_WHITE, COLOR_BLUE);
        mov     w2, 4    //,
        mov     w1, 7    //,
        mov     w0, 1    //,
        bl      init_pair                //
// main.cpp:335:    mousemask(ALL_MOUSE_EVENTS | REPORT_MOUSE_POSITION, NULL);
        mov     x1, 0    //,
        mov     w0, 536870911    //,
        bl      mousemask                //
.L130:
// main.cpp:339:      clear();
        bl      clear            //
// main.cpp:341:      attron(A_REVERSE);
        adrp    x0, :got:stdscr // tmp298,
        ldr     x0, [x0, #:got_lo12:stdscr]      // tmp297, tmp298,
        ldr     x0, [x0]         // stdscr.43_9, stdscr
        mov     x2, 0    //,
        mov     w1, 262144       //,
        bl      wattr_on         //
// main.cpp:342:      mvprintw(0, 0, "Macro");
        adrp    x0, .LC4         // tmp299,
        add     x2, x0, :lo12:.LC4       //, tmp299,
        mov     w1, 0    //,
        mov     w0, 0    //,
        bl      mvprintw                 //
// main.cpp:343:      attroff(A_REVERSE);
        adrp    x0, :got:stdscr // tmp301,
        ldr     x0, [x0, #:got_lo12:stdscr]      // tmp300, tmp301,
        ldr     x0, [x0]         // stdscr.44_10, stdscr
        mov     x2, 0    //,
        mov     w1, 262144       //,
        bl      wattr_off        //
// main.cpp:345:      display_memory_info(memory, nodes);
        ldr     x0, [sp, 240]    // memory.45_11, memory
        ldr     x1, [sp, 232]    // nodes.46_12, nodes
        bl      _Z19display_memory_infomm                //
// main.cpp:347:      int y = 3;
        mov     w0, 3    // tmp302,
        str     w0, [sp, 412]    // tmp302, y
// main.cpp:348:      Node *current = lines.head;
```

```
        ldr     x0, [sp, 208]    // tmp303, lines.head
        str     x0, [sp, 400]    // tmp303, current
// main.cpp:349:      int line_count = 0;
        str     wzr, [sp, 396]   //, line_count
// main.cpp:350:      while (current)
        b       .L97             //
.L99:
// main.cpp:352:          if (line_count ≥ scroll_offset && y < LINES − 1)
        ldr     w0, [sp, 220]    // scroll_offset.47_13, scroll_offset
// main.cpp:352:          if (line_count ≥ scroll_offset && y < LINES − 1)
        ldr     w1, [sp, 396]    // tmp304, line_count
        cmp     w1, w0  // tmp304, scroll_offset.47_13
        blt     .L98             //,
// main.cpp:352:          if (line_count ≥ scroll_offset && y < LINES − 1)
        adrp    x0, :got:LINES  // tmp306,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp305, tmp306,
        ldr     w0, [x0]         // LINES.48_14, LINES
        sub     w0, w0, #1       // _15, LINES.48_14,
// main.cpp:352:          if (line_count ≥ scroll_offset && y < LINES − 1)
        ldr     w1, [sp, 412]    // tmp307, y
        cmp     w1, w0  // tmp307, _15
        bge     .L98             //,
// main.cpp:354:              mvprintw(y++, 0, "%s", current→line.c_str());
        ldr     w19, [sp, 412]   // y.49_16, y
        add     w0, w19, 1       // tmp308, y.49_16,
        str     w0, [sp, 412]    // tmp308, y
        ldr     x0, [sp, 400]    // _17, current
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5c_strEv
//
        mov     x3, x0  //, _18
        adrp    x0, .LC2         // tmp309,
        add     x2, x0, :lo12:.LC2       //, tmp309,
        mov     w1, 0    //,
        mov     w0, w19 //, y.49_16
        bl      mvprintw                 //
.L98:
// main.cpp:356:          line_count++;
        ldr     w0, [sp, 396]    // tmp311, line_count
        add     w0, w0, 1        // tmp310, tmp311,
        str     w0, [sp, 396]    // tmp310, line_count
// main.cpp:357:          current = current→next;
        ldr     x0, [sp, 400]    // tmp312, current
        ldr     x0, [x0, 32]     // tmp313, current_176→next
        str     x0, [sp, 400]    // tmp313, current
.L97:
// main.cpp:350:      while (current)
        ldr     x0, [sp, 400]    // tmp314, current
        cmp     x0, 0   // tmp314,
        bne     .L99             //,
// main.cpp:360:      search_text(lines, search_str, cursor_x, cursor_y, scro
ll_offset, current_line);
        add     x5, sp, 168      // tmp315,,
        add     x4, sp, 220      // tmp316,,
        add     x3, sp, 224      // tmp317,,
        add     x2, sp, 228      // tmp318,,
        add     x1, sp, 136      // tmp319,,
        add     x0, sp, 208      // tmp320,,
        bl      _Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11cha
r_traitsIcESaIcEEERiS9_S9_RP4Node
// main.cpp:361:      move(cursor_y, cursor_x);
        ldr     w0, [sp, 224]    // cursor_y.50_19, cursor_y
        ldr     w1, [sp, 228]    // cursor_x.51_20, cursor_x
```

```
        bl      move            //
// main.cpp:363:         attron(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp322,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp321, tmp322,
        ldr     x0, [x0]        // stdscr.52_21, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_on
// main.cpp:364:         mvprintw(LINES - 1, 0, CONTROLS);
        adrp    x0, :got:LINES  // tmp324,
        ldr     x0, [x0, #:got_lo12:LINES]      // tmp323, tmp324,
        ldr     w0, [x0]        // LINES.53_22, LINES
        sub     w3, w0, #1      // _23, LINES.53_22,
        adrp    x0, CONTROLS    // tmp326,
        add     x0, x0, :lo12:CONTROLS  // tmp325, tmp326,
        ldr     x0, [x0]        // CONTROLS.54_24, CONTROLS
        mov     x2, x0  //, CONTROLS.54_24
        mov     w1, 0   //,
        mov     w0, w3  //, _23
        bl      mvprintw        //
// main.cpp:365:         attroff(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp328,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp327, tmp328,
        ldr     x0, [x0]        // stdscr.55_25, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_off       //
// main.cpp:366:         move(cursor_y, cursor_x);
        ldr     w0, [sp, 224]   // cursor_y.56_26, cursor_y
        ldr     w1, [sp, 228]   // cursor_x.57_27, cursor_x
        bl      move            //
// main.cpp:368:         ch = getch();
        adrp    x0, :got:stdscr // tmp330,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp329, tmp330,
        ldr     x0, [x0]        // stdscr.58_28, stdscr
        bl      wgetch          //
        str     w0, [sp, 392]   // _255, ch
// main.cpp:370:         switch (ch)
        ldr     w0, [sp, 392]   // tmp331, ch
        cmp     w0, 409 // tmp331,
        beq     .L100           //,
        ldr     w0, [sp, 392]   // tmp332, ch
        cmp     w0, 409 // tmp332,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp333, ch
        cmp     w0, 343 // tmp333,
        beq     .L102           //,
        ldr     w0, [sp, 392]   // tmp334, ch
        cmp     w0, 343 // tmp334,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp335, ch
        cmp     w0, 330 // tmp335,
        beq     .L103           //,
        ldr     w0, [sp, 392]   // tmp336, ch
        cmp     w0, 330 // tmp336,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp337, ch
        cmp     w0, 263 // tmp337,
        beq     .L104           //,
        ldr     w0, [sp, 392]   // tmp338, ch
        cmp     w0, 263 // tmp338,
        bgt     .L101           //,
```

```
        ldr     w0, [sp, 392]   // tmp339, ch
        cmp     w0, 261 // tmp339,
        beq     .L105           //,
        ldr     w0, [sp, 392]   // tmp340, ch
        cmp     w0, 261 // tmp340,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp341, ch
        cmp     w0, 260 // tmp341,
        beq     .L106           //,
        ldr     w0, [sp, 392]   // tmp342, ch
        cmp     w0, 260 // tmp342,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp343, ch
        cmp     w0, 259 // tmp343,
        beq     .L107           //,
        ldr     w0, [sp, 392]   // tmp344, ch
        cmp     w0, 259 // tmp344,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp345, ch
        cmp     w0, 258 // tmp345,
        beq     .L108           //,
        ldr     w0, [sp, 392]   // tmp346, ch
        cmp     w0, 258 // tmp346,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp347, ch
        cmp     w0, 127 // tmp347,
        beq     .L104           //,
        ldr     w0, [sp, 392]   // tmp348, ch
        cmp     w0, 127 // tmp348,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp349, ch
        cmp     w0, 24  // tmp349,
        beq     .L109           //,
        ldr     w0, [sp, 392]   // tmp350, ch
        cmp     w0, 24  // tmp350,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp351, ch
        cmp     w0, 23  // tmp351,
        beq     .L110           //,
        ldr     w0, [sp, 392]   // tmp352, ch
        cmp     w0, 23  // tmp352,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp353, ch
        cmp     w0, 20  // tmp353,
        beq     .L111           //,
        ldr     w0, [sp, 392]   // tmp354, ch
        cmp     w0, 20  // tmp354,
        bgt     .L101           //,
        ldr     w0, [sp, 392]   // tmp355, ch
        cmp     w0, 10  // tmp355,
        beq     .L102           //,
        ldr     w0, [sp, 392]   // tmp356, ch
        cmp     w0, 15  // tmp356,
        beq     .L112           //,
        b       .L101           //
.L100:
// main.cpp:374:         if (getmouse(&event) == OK)
        add     x0, sp, 80      // tmp357,,
        bl      getmouse                //
// main.cpp:374:         if (getmouse(&event) == OK)
        cmp     w0, 0   // _29,
        cset    w0, eq  // tmp359,
```

```
        and     w0, w0, 255     // retval.59_259, tmp358
// main.cpp:374:               if (getmouse(&event) ≡ OK)
        cmp     w0, 0   // retval.59_259,
        beq     .L142           //,
// main.cpp:376:               handle_mouse(event.x, event.y, cursor_x, cursor
_y, scroll_offset, lines);
        ldr     w0, [sp, 84]    // _30, event.x
        ldr     w1, [sp, 88]    // _31, event.y
        add     x5, sp, 208     // tmp360,,
        add     x4, sp, 220     // tmp361,,
        add     x3, sp, 224     // tmp362,,
        add     x2, sp, 228     // tmp363,,
        bl      _Z12handle_mouseiiRiS_S_R10LinkedList            //
// main.cpp:377:               move(cursor_y, cursor_x);
        ldr     w0, [sp, 224]   // cursor_y.60_32, cursor_y
        ldr     w1, [sp, 228]   // cursor_x.61_33, cursor_x
        bl      move            //
// main.cpp:379:               break;
        b       .L142           //
.L110:
// main.cpp:381:               attron(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp365,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp364, tmp365,
        ldr     x0, [x0]        // stdscr.62_34, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_on                //
// main.cpp:382:               search_str = get_user_input("Search: ");
        add     x0, sp, 288     // tmp366,,
        mov     x8, x0  //, tmp366
        adrp    x0, .LC5                // tmp367,
        add     x0, x0, :lo12:.LC5      //, tmp367,
        bl      _Z14get_user_inputB5cxx11PKc            //
// main.cpp:382:               search_str = get_user_input("Search: ");
        add     x1, sp, 288     // tmp368,,
        add     x0, sp, 136     // tmp369,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEaSEOS4_
//
// main.cpp:382:               search_str = get_user_input("Search: ");
        add     x0, sp, 288     // tmp370,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
// main.cpp:383:               attroff(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp372,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp371, tmp372,
        ldr     x0, [x0]        // stdscr.63_35, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_off               //
// main.cpp:384:       search_text(lines, search_str, cursor_x, cursor_y,
scroll_offset, current_line);
        add     x5, sp, 168     // tmp373,,
        add     x4, sp, 220     // tmp374,,
        add     x3, sp, 224     // tmp375,,
        add     x2, sp, 228     // tmp376,,
        add     x1, sp, 136     // tmp377,,
        add     x0, sp, 208     // tmp378,,
        bl      _Z11search_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11cha
r_traitsIcESaIcEEERiS9_S9_RP4Node            //
// main.cpp:385:               move(cursor_y, cursor_x);
        ldr     w0, [sp, 224]   // cursor_y.64_36, cursor_y
        ldr     w1, [sp, 228]   // cursor_x.65_37, cursor_x
```

```
        bl      move            //
// main.cpp:386:               refresh();
        bl      refresh         //
// main.cpp:387:               break;
        b       .L114           //
.L111:
// main.cpp:389:               attron(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp380,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp379, tmp380,
        ldr     x0, [x0]        // stdscr.66_38, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_on                //
// main.cpp:390:               search_str = get_user_input("Search for: ");
        add     x0, sp, 320     // tmp381,,
        mov     x8, x0  //, tmp381
        adrp    x0, .LC6                // tmp382,
        add     x0, x0, :lo12:.LC6      //, tmp382,
        bl      _Z14get_user_inputB5cxx11PKc            //
// main.cpp:390:               search_str = get_user_input("Search for: ");
        add     x1, sp, 320     // tmp383,,
        add     x0, sp, 136     // tmp384,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEaSEOS4_
//
// main.cpp:390:               search_str = get_user_input("Search for: ");
        add     x0, sp, 320     // tmp385,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
// main.cpp:391:               replace_str = get_user_input("Replace with: ");
        add     x0, sp, 352     // tmp386,,
        mov     x8, x0  //, tmp386
        adrp    x0, .LC7                // tmp387,
        add     x0, x0, :lo12:.LC7      //, tmp387,
        bl      _Z14get_user_inputB5cxx11PKc            //
// main.cpp:391:               replace_str = get_user_input("Replace with: ");
        add     x1, sp, 352     // tmp388,,
        add     x0, sp, 104     // tmp389,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEEaSEOS4_
//
// main.cpp:391:               replace_str = get_user_input("Replace with: ");
        add     x0, sp, 352     // tmp390,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
// main.cpp:392:               attroff(A_BOLD | A_REVERSE);
        adrp    x0, :got:stdscr // tmp392,
        ldr     x0, [x0, #:got_lo12:stdscr]     // tmp391, tmp392,
        ldr     x0, [x0]        // stdscr.67_39, stdscr
        mov     x2, 0   //,
        mov     w1, 2359296     //,
        bl      wattr_off               //
// main.cpp:393:               replace_text(lines, search_str, replace_str);
        add     x2, sp, 104     // tmp393,,
        add     x1, sp, 136     // tmp394,,
        add     x0, sp, 208     // tmp395,,
        bl      _Z12replace_textR10LinkedListRKNSt7__cxx1112basic_stringIcSt11ch
ar_traitsIcESaIcEEES8_          //
// main.cpp:394:               refresh();
        bl      refresh         //
// main.cpp:395:               break;
        b       .L114           //
.L109:
// main.cpp:397:               list_clear(lines);
```

```
        add     x0, sp, 208     // tmp396,,
        bl      _Z10list_clearR10LinkedList             //
// main.cpp:398:            endwin();
        bl      endwin          //
// main.cpp:399:            return 0;
        mov     w19, 0  // _302,
// main.cpp:512: }
        add     x0, sp, 104     // tmp397,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        add     x0, sp, 136     // tmp398,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        add     x0, sp, 176     // tmp399,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        mov     w0, w19 // <retval>, _302
        b       .L141           //
.L112:
// main.cpp:401:            save_file(filename.c_str(), lines);
        add     x0, sp, 176     // tmp400,,
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5c_strEv
//
        mov     x2, x0  // _40,
        add     x0, sp, 208     // tmp401,,
        mov     x1, x0  //, tmp401
        mov     x0, x2  //, _40
        bl      _Z9save_filePKcRK10LinkedList           //
// main.cpp:402:            break;
        b       .L114           //
.L103:
// main.cpp:404:            if (cursor_x < static_cast<int>(current_line→line.
size()))
        ldr     x0, [sp, 168]   // current_line.69_41, current_line
// main.cpp:404:            if (cursor_x < static_cast<int>(current_line→line.
size()))
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4sizeEv
//
// main.cpp:404:            if (cursor_x < static_cast<int>(current_line→line.
size()))
        mov     w1, w0  // _44, _43
        ldr     w0, [sp, 228]   // cursor_x.70_45, cursor_x
        cmp     w1, w0  // _44, cursor_x.70_45
        cset    w0, gt  // tmp403,
        and     w0, w0, 255     // retval.68_263, tmp402
// main.cpp:404:            if (cursor_x < static_cast<int>(current_line→line.
size()))
        cmp     w0, 0   // retval.68_263,
        beq     .L116           //,
// main.cpp:406:                current_line→line.erase(cursor_x, 1);
        ldr     x0, [sp, 168]   // current_line.71_46, current_line
// main.cpp:406:                current_line→line.erase(cursor_x, 1);
        mov     x3, x0  // _47, current_line.71_46
        ldr     w0, [sp, 228]   // cursor_x.72_48, cursor_x
        sxtw    x0, w0  // _49, cursor_x.72_48
        mov     x2, 1   //,
        mov     x1, x0  //, _49
        mov     x0, x3  //, _47
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5eraseEmm
//
// main.cpp:414:            break;
        b       .L143           //
```

```
.L116:
// main.cpp:408:            else if (current_line→next)
        ldr     x0, [sp, 168]   // current_line.73_50, current_line
        ldr     x0, [x0, 32]    // _51, current_line.73_50→next
// main.cpp:408:            else if (current_line→next)
        cmp     x0, 0   // _51,
        beq     .L143           //,
// main.cpp:410:                current_line→line.append(current_line→next→li
ne);
        ldr     x0, [sp, 168]   // current_line.74_52, current_line
// main.cpp:410:                current_line→line.append(current_line→next→li
ne);
        mov     x2, x0  // _53, current_line.74_52
// main.cpp:410:                current_line→line.append(current_line→next→li
ne);
        ldr     x0, [sp, 168]   // current_line.75_54, current_line
        ldr     x0, [x0, 32]    // _55, current_line.75_54→next
// main.cpp:410:                current_line→line.append(current_line→next→li
ne);
        mov     x1, x0  //, _56
        mov     x0, x2  //, _53
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6appendERKS
4_      //
// main.cpp:411:                list_erase_next(current_line);
        add     x0, sp, 168     // tmp404,,
        bl      _Z15list_erase_nextRP4Node              //
// main.cpp:412:                nodes--;
        ldr     x0, [sp, 232]   // nodes.76_57, nodes
        sub     x0, x0, #1      // _58, nodes.76_57,
        str     x0, [sp, 232]   // _58, nodes
// main.cpp:414:            break;
        b       .L143           //
.L104:
// main.cpp:417:            if (cursor_x ≡ 0 && cursor_y > 3)
        ldr     w0, [sp, 228]   // cursor_x.77_59, cursor_x
// main.cpp:417:            if (cursor_x ≡ 0 && cursor_y > 3)
        cmp     w0, 0   // cursor_x.77_59,
        bne     .L118           //,
// main.cpp:417:            if (cursor_x ≡ 0 && cursor_y > 3)
        ldr     w0, [sp, 224]   // cursor_y.78_60, cursor_y
// main.cpp:417:            if (cursor_x ≡ 0 && cursor_y > 3)
        cmp     w0, 3   // cursor_y.78_60,
        ble     .L118           //,
// main.cpp:419:                Node *prev = list_advance(lines.head, cursor_y
- 4 + scroll_offset);
        ldr     x2, [sp, 208]   // _61, lines.head
// main.cpp:419:                Node *prev = list_advance(lines.head, cursor_y
- 4 + scroll_offset);
        ldr     w0, [sp, 224]   // cursor_y.79_62, cursor_y
        sub     w1, w0, #4      // _63, cursor_y.79_62,
// main.cpp:419:                Node *prev = list_advance(lines.head, cursor_y
- 4 + scroll_offset);
        ldr     w0, [sp, 220]   // scroll_offset.80_64, scroll_offset
        add     w0, w1, w0      // _65, _63, scroll_offset.80_64
        mov     w1, w0  //, _65
        mov     x0, x2  //, _61
        bl      _Z12list_advanceP4Nodei         //
// main.cpp:419:                Node *prev = list_advance(lines.head, cursor_y
- 4 + scroll_offset);
        str     x0, [sp, 72]    // _66, prev
// main.cpp:420:                prev→line.append(current_line→line);
        ldr     x0, [sp, 72]    // prev.81_67, prev
```

```
// main.cpp:420:                  prev→line.append(current_line→line);
        mov     x2, x0  // _68, prev.81_67
// main.cpp:420:                  prev→line.append(current_line→line);
        ldr     x0, [sp, 168]  // current_line.82_69, current_line
// main.cpp:420:                  prev→line.append(current_line→line);
        mov     x1, x0  //, _70
        mov     x0, x2  //, _68
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6appendERKS
4_      //
// main.cpp:421:                  list_erase_next(prev);
        add     x0, sp, 72      // tmp405,,
        bl      _Z15list_erase_nextRP4Node              //
// main.cpp:422:                  nodes--;
        ldr     x0, [sp, 232]  // nodes.83_71, nodes
        sub     x0, x0, #1      // _72, nodes.83_71,
        str     x0, [sp, 232]  // _72, nodes
// main.cpp:423:                  cursor_x = prev→line.length();
        ldr     x0, [sp, 72]    // prev.84_73, prev
// main.cpp:423:                  cursor_x = prev→line.length();
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6lengthEv
//
// main.cpp:423:                  cursor_x = prev→line.length();
        str     w0, [sp, 228]  // _76, cursor_x
// main.cpp:424:                  cursor_y--;
        ldr     w0, [sp, 224]  // cursor_y.85_77, cursor_y
        sub     w0, w0, #1      // _78, cursor_y.85_77,
        str     w0, [sp, 224]  // _78, cursor_y
// main.cpp:425:                  }
        nop
// main.cpp:431:                  break;
        b       .L144           //
.L118:
// main.cpp:426:                  else if (cursor_x > 0)
        ldr     w0, [sp, 228]  // cursor_x.86_79, cursor_x
// main.cpp:426:                  else if (cursor_x > 0)
        cmp     w0, 0  // cursor_x.86_79,
        ble     .L144           //,
// main.cpp:428:                  current_line→line.erase(cursor_x - 1, 1);
        ldr     x0, [sp, 168]  // current_line.87_80, current_line
// main.cpp:428:                  current_line→line.erase(cursor_x - 1, 1);
        mov     x3, x0  // _81, current_line.87_80
// main.cpp:428:                  current_line→line.erase(cursor_x - 1, 1);
        ldr     w0, [sp, 228]  // cursor_x.88_82, cursor_x
        sub     w0, w0, #1      // _83, cursor_x.88_82,
// main.cpp:428:                  current_line→line.erase(cursor_x - 1, 1);
        sxtw    x0, w0  // _84, _83
        mov     x2, 1  //,
        mov     x1, x0  //, _84
        mov     x0, x3  //, _81
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5eraseEmm
//
// main.cpp:429:                  cursor_x--;
        ldr     w0, [sp, 228]  // cursor_x.89_85, cursor_x
        sub     w0, w0, #1      // _86, cursor_x.89_85,
        str     w0, [sp, 228]  // _86, cursor_x
// main.cpp:431:                  break;
        b       .L144           //
.L102:
// main.cpp:435:                  memory += sizeof(Node);
        ldr     x0, [sp, 240]  // memory.90_87, memory
        add     x0, x0, 40      // _88, memory.90_87,
        str     x0, [sp, 240]  // _88, memory
```

```
// main.cpp:436:                  nodes++;
        ldr     x0, [sp, 232]  // nodes.91_89, nodes
        add     x0, x0, 1       // _90, nodes.91_89,
        str     x0, [sp, 232]  // _90, nodes
// main.cpp:437:                  std::string new_line = current_line→line.substr(cu
rsor_x);
        ldr     x0, [sp, 168]  // current_line.92_91, current_line
// main.cpp:437:                  std::string new_line = current_line→line.substr(cu
rsor_x);
        mov     x3, x0  // _92, current_line.92_91
        ldr     w0, [sp, 228]  // cursor_x.93_93, cursor_x
        sxtw    x0, w0  // _94, cursor_x.93_93
        add     x1, sp, 40      // tmp406,,
        mov     x8, x1  //, tmp406
        mov     x2, -1  //,
        mov     x1, x0  //, _94
        mov     x0, x3  //, _92
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6substrEmm
        //
.LEHE17:
// main.cpp:438:                  current_line→line.erase(cursor_x);
        ldr     x0, [sp, 168]  // current_line.94_95, current_line
// main.cpp:438:                  current_line→line.erase(cursor_x);
        mov     x3, x0  // _96, current_line.94_95
        ldr     w0, [sp, 228]  // cursor_x.95_97, cursor_x
        sxtw    x0, w0  // _98, cursor_x.95_97
        mov     x2, -1  //,
        mov     x1, x0  //, _98
        mov     x0, x3  //, _96
.LEHB18:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE5eraseEmm
//
// main.cpp:439:                  Node *new_node = make_node(new_line);
        add     x0, sp, 40      // tmp407,,
        bl      _Z9make_nodeRKNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcE
EE      //
.LEHE18:
        str     x0, [sp, 384]  // _345, new_node
// main.cpp:440:                  new_node→next = current_line→next;
        ldr     x0, [sp, 168]  // current_line.96_99, current_line
        ldr     x1, [x0, 32]    // _100, current_line.96_99→next
// main.cpp:440:                  new_node→next = current_line→next;
        ldr     x0, [sp, 384]  // tmp408, new_node
        str     x1, [x0, 32]    // _100, new_node_346→next
// main.cpp:441:                  current_line→next = new_node;
        ldr     x0, [sp, 168]  // current_line.97_101, current_line
// main.cpp:441:                  current_line→next = new_node;
        ldr     x1, [sp, 384]  // tmp409, new_node
        str     x1, [x0, 32]    // tmp409, current_line.97_101→next
// main.cpp:443:                  cursor_x = 0;
        str     wzr, [sp, 228]  //, cursor_x
// main.cpp:444:                  cursor_y++;
        ldr     w0, [sp, 224]  // cursor_y.98_102, cursor_y
        add     w0, w0, 1       // _103, cursor_y.98_102,
        str     w0, [sp, 224]  // _103, cursor_y
// main.cpp:445:                  if (cursor_y ≥ LINES - 1)
        adrp    x0, :got:LINES  // tmp411,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp410, tmp411,
        ldr     w0, [x0]        // LINES.99_104, LINES
        sub     w1, w0, #1      // _105, LINES.99_104,
// main.cpp:445:                  if (cursor_y ≥ LINES - 1)
        ldr     w0, [sp, 224]  // cursor_y.100_106, cursor_y
```

```
// main.cpp:445:              if (cursor_y ≥ LINES - 1)
        cmp     w1, w0  // _105, cursor_y.100_106
        bgt     .L120           //,
// main.cpp:447:                  cursor_y--;
        ldr     w0, [sp, 224]   // cursor_y.101_107, cursor_y
        sub     w0, w0, #1      // _108, cursor_y.101_107,
        str     w0, [sp, 224]   // _108, cursor_y
// main.cpp:448:                  scroll_offset++;
        ldr     w0, [sp, 220]   // scroll_offset.102_109, scroll_offset
        add     w0, w0, 1       // _110, scroll_offset.102_109,
        str     w0, [sp, 220]   // _110, scroll_offset
.L120:
// main.cpp:450:              current_line = new_node;
        ldr     x0, [sp, 384]   // tmp412, new_node
        str     x0, [sp, 168]   // tmp412, current_line
// main.cpp:451:              break;
        nop
// main.cpp:452:          }
        add     x0, sp, 40      // tmp413,,
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        b       .L130           //
.L107:
// main.cpp:454:              if (cursor_y > 3)
        ldr     w0, [sp, 224]   // cursor_y.103_111, cursor_y
// main.cpp:454:              if (cursor_y > 3)
        cmp     w0, 3   // cursor_y.103_111,
        ble     .L121           //,
// main.cpp:456:                  cursor_y--;
        ldr     w0, [sp, 224]   // cursor_y.104_112, cursor_y
        sub     w0, w0, #1      // _113, cursor_y.104_112,
        str     w0, [sp, 224]   // _113, cursor_y
        b       .L122           //
.L121:
// main.cpp:458:              else if (scroll_offset > 0)
        ldr     w0, [sp, 220]   // scroll_offset.105_114, scroll_offset
// main.cpp:458:              else if (scroll_offset > 0)
        cmp     w0, 0   // scroll_offset.105_114,
        ble     .L122           //,
// main.cpp:460:                  scroll_offset--;
        ldr     w0, [sp, 220]   // scroll_offset.106_115, scroll_offset
        sub     w0, w0, #1      // _116, scroll_offset.106_115,
        str     w0, [sp, 220]   // _116, scroll_offset
.L122:
// main.cpp:462:              current_line = list_advance(lines.head, cursor_y -
3 + scroll_offset);
        ldr     x2, [sp, 208]   // _117, lines.head
// main.cpp:462:              current_line = list_advance(lines.head, cursor_y -
3 + scroll_offset);
        ldr     w0, [sp, 224]   // cursor_y.107_118, cursor_y
        sub     w1, w0, #3      // _119, cursor_y.107_118,
// main.cpp:462:              current_line = list_advance(lines.head, cursor_y -
3 + scroll_offset);
        ldr     w0, [sp, 220]   // scroll_offset.108_120, scroll_offset
        add     w0, w1, w0      // _121, _119, scroll_offset.108_120
        mov     w1, w0  //, _121
        mov     x0, x2  //, _117
        bl      _Z12list_advanceP4Nodei         //
// main.cpp:462:              current_line = list_advance(lines.head, cursor_y -
3 + scroll_offset);
        str     x0, [sp, 168]   // _122, current_line
// main.cpp:463:              break;
```

```
        b       .L114           //
.L108:
// main.cpp:465:              if (cursor_y < LINES - 2 && current_line→next)
        adrp    x0, :got:LINES  // tmp415,
        ldr     x0, [x0, #:got_lo12:LINES]       // tmp414, tmp415,
        ldr     w0, [x0]        // LINES.109_123, LINES
        sub     w1, w0, #2      // _124, LINES.109_123,
// main.cpp:465:              if (cursor_y < LINES - 2 && current_line→next)
        ldr     w0, [sp, 224]   // cursor_y.110_125, cursor_y
// main.cpp:465:              if (cursor_y < LINES - 2 && current_line→next)
        cmp     w1, w0  // _124, cursor_y.110_125
        ble     .L123           //,
// main.cpp:465:              if (cursor_y < LINES - 2 && current_line→next)
        ldr     x0, [sp, 168]   // current_line.111_126, current_line
        ldr     x0, [x0, 32]    // _127, current_line.111_126→next
// main.cpp:465:              if (cursor_y < LINES - 2 && current_line→next)
        cmp     x0, 0   // _127,
        beq     .L123           //,
// main.cpp:467:                  cursor_y++;
        ldr     w0, [sp, 224]   // cursor_y.112_128, cursor_y
        add     w0, w0, 1       // _129, cursor_y.112_128,
        str     w0, [sp, 224]   // _129, cursor_y
// main.cpp:468:                  current_line = current_line→next;
        ldr     x0, [sp, 168]   // current_line.113_130, current_line
        ldr     x0, [x0, 32]    // _131, current_line.113_130→next
// main.cpp:468:                  current_line = current_line→next;
        str     x0, [sp, 168]   // _131, current_line
// main.cpp:475:              break;
        b       .L145           //
.L123:
// main.cpp:470:              else if (current_line→next)
        ldr     x0, [sp, 168]   // current_line.114_132, current_line
        ldr     x0, [x0, 32]    // _133, current_line.114_132→next
// main.cpp:470:              else if (current_line→next)
        cmp     x0, 0   // _133,
        beq     .L145           //,
// main.cpp:472:                  scroll_offset++;
        ldr     w0, [sp, 220]   // scroll_offset.115_134, scroll_offset
        add     w0, w0, 1       // _135, scroll_offset.115_134,
        str     w0, [sp, 220]   // _135, scroll_offset
// main.cpp:473:                  current_line = current_line→next;
        ldr     x0, [sp, 168]   // current_line.116_136, current_line
        ldr     x0, [x0, 32]    // _137, current_line.116_136→next
// main.cpp:473:                  current_line = current_line→next;
        str     x0, [sp, 168]   // _137, current_line
// main.cpp:475:              break;
        b       .L145           //
.L106:
// main.cpp:477:              if (cursor_x > 0)
        ldr     w0, [sp, 228]   // cursor_x.117_138, cursor_x
// main.cpp:477:              if (cursor_x > 0)
        cmp     w0, 0   // cursor_x.117_138,
        ble     .L125           //,
// main.cpp:479:                  cursor_x--;
        ldr     w0, [sp, 228]   // cursor_x.118_139, cursor_x
        sub     w0, w0, #1      // _140, cursor_x.118_139,
        str     w0, [sp, 228]   // _140, cursor_x
// main.cpp:487:              break;
        b       .L146           //
.L125:
// main.cpp:481:              else if (cursor_y > 3)
        ldr     w0, [sp, 224]   // cursor_y.119_141, cursor_y
```

```
// main.cpp:481:                else if (cursor_y > 3)
        cmp     w0, 3   // cursor_y.119_141,
        ble     .L146           //,
// main.cpp:483:                   cursor_y--;
        ldr     w0, [sp, 224]   // cursor_y.120_142, cursor_y
        sub     w0, w0, #1      // _143, cursor_y.120_142,
        str     w0, [sp, 224]   // _143, cursor_y
// main.cpp:484:                   current_line = list_advance(lines.head, cursor_
y - 3 + scroll_offset);
        ldr     x2, [sp, 208]   // _144, lines.head
// main.cpp:484:                   current_line = list_advance(lines.head, cursor_
y - 3 + scroll_offset);
        ldr     w0, [sp, 224]   // cursor_y.121_145, cursor_y
        sub     w1, w0, #3      // _146, cursor_y.121_145,
// main.cpp:484:                   current_line = list_advance(lines.head, cursor_
y - 3 + scroll_offset);
        ldr     w0, [sp, 220]   // scroll_offset.122_147, scroll_offset
        add     w0, w1, w0      // _148, _146, scroll_offset.122_147
        mov     w1, w0  //, _148
        mov     x0, x2  //, _144
        bl      _Z12list_advanceP4Nodei         //
// main.cpp:484:                   current_line = list_advance(lines.head, cursor_
y - 3 + scroll_offset);
        str     x0, [sp, 168]   // _149, current_line
// main.cpp:485:                   cursor_x = current_line→line.size();
        ldr     x0, [sp, 168]   // current_line.123_150, current_line
// main.cpp:485:                   cursor_x = current_line→line.size();
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4sizeEv
//
// main.cpp:485:                   cursor_x = current_line→line.size();
        str     w0, [sp, 228]   // _153, cursor_x
// main.cpp:487:                break;
        b       .L146           //
.L105:
// main.cpp:489:                if (cursor_x < static_cast<int>(current_line→line.
size()))
        ldr     x0, [sp, 168]   // current_line.125_154, current_line
// main.cpp:489:                if (cursor_x < static_cast<int>(current_line→line.
size()))
        bl      _ZNKSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE4sizeEv
//
// main.cpp:489:                if (cursor_x < static_cast<int>(current_line→line.
size()))
        mov     w1, w0  // _157, _156
        ldr     w0, [sp, 228]   // cursor_x.126_158, cursor_x
        cmp     w1, w0  // _157, cursor_x.126_158
        cset    w0, gt  // tmp417,
        and     w0, w0, 255     // retval.124_269, tmp416
// main.cpp:489:                if (cursor_x < static_cast<int>(current_line→line.
size()))
        cmp     w0, 0   // retval.124_269,
        beq     .L127           //,
// main.cpp:491:                   cursor_x++;
        ldr     w0, [sp, 228]   // cursor_x.127_159, cursor_x
        add     w0, w0, 1       // _160, cursor_x.127_159,
        str     w0, [sp, 228]   // _160, cursor_x
// main.cpp:499:                break;
        b       .L147           //
.L127:
// main.cpp:493:                else if (current_line→next)
        ldr     x0, [sp, 168]   // current_line.128_161, current_line
        ldr     x0, [x0, 32]    // _162, current_line.128_161→next
```

```
// main.cpp:493:                else if (current_line→next)
        cmp     x0, 0   // _162,
        beq     .L147           //,
// main.cpp:495:                   cursor_y++;
        ldr     w0, [sp, 224]   // cursor_y.129_163, cursor_y
        add     w0, w0, 1       // _164, cursor_y.129_163,
        str     w0, [sp, 224]   // _164, cursor_y
// main.cpp:496:                   cursor_x = 0;
        str     wzr, [sp, 228]  //, cursor_x
// main.cpp:497:                   current_line = current_line→next;
        ldr     x0, [sp, 168]   // current_line.130_165, current_line
        ldr     x0, [x0, 32]    // _166, current_line.130_165→next
// main.cpp:497:                   current_line = current_line→next;
        str     x0, [sp, 168]   // _166, current_line
// main.cpp:499:                break;
        b       .L147           //
.L101:
// main.cpp:501:                   if (ch ≥ 32 && ch ≤ 126)
        ldr     w0, [sp, 392]   // tmp418, ch
        cmp     w0, 31  // tmp418,
        ble     .L148           //,
// main.cpp:501:                   if (ch ≥ 32 && ch ≤ 126)
        ldr     w0, [sp, 392]   // tmp419, ch
        cmp     w0, 126 // tmp419,
        bgt     .L148           //,
// main.cpp:503:                   current_line→line.insert(cursor_x, 1, static_c
ast<char>(ch));
        ldr     x0, [sp, 168]   // current_line.131_167, current_line
// main.cpp:503:                   current_line→line.insert(cursor_x, 1, static_c
ast<char>(ch));
        mov     x4, x0  // _168, current_line.131_167
        ldr     w0, [sp, 228]   // cursor_x.132_169, cursor_x
        sxtw    x0, w0  // _170, cursor_x.132_169
        ldr     w1, [sp, 392]   // tmp420, ch
        and     w1, w1, 255     // _171, tmp420
        mov     w3, w1  //, _171
        mov     x2, 1   //,
        mov     x1, x0  //, _170
        mov     x0, x4  //, _168
.LEHB19:
        bl      _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEE6insertEmmc
        //
.LEHE19:
// main.cpp:504:                   cursor_x++;
        ldr     w0, [sp, 228]   // cursor_x.133_172, cursor_x
        add     w0, w0, 1       // _173, cursor_x.133_172,
        str     w0, [sp, 228]   // _173, cursor_x
// main.cpp:506:                break;
        b       .L148           //
.L142:
// main.cpp:379:                break;
        nop
        b       .L130           //
.L143:
// main.cpp:414:                break;
        nop
        b       .L130           //
.L144:
// main.cpp:431:                break;
        nop
        b       .L130           //
.L145:
```

```
// main.cpp:475:                    break;
        nop
        b          .L130              //
.L146:
// main.cpp:487:                    break;
        nop
        b          .L130              //
.L147:
// main.cpp:499:                    break;
        nop
        b          .L130              //
.L148:
// main.cpp:506:                    break;
        nop
.L114:
// main.cpp:508:            }
        b          .L130              //
.L138:
// main.cpp:320:            list_push_back(lines, "");
        mov        x19, x0 // tmp424,
        add        x0, sp, 248        // tmp422,,
        bl         _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        b          .L132              //
.L137:
        mov        x19, x0 // tmp423,
.L132:
// main.cpp:320:            list_push_back(lines, "");
        add        x0, sp, 280        // tmp427,,
        bl         _ZNSaIcED1Ev                //
        b          .L133              //
.L140:
// main.cpp:452:            }
        mov        x19, x0 // tmp432,
        add        x0, sp, 40         // tmp430,,
        bl         _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        b          .L135              //
.L139:
// main.cpp:512: }
        mov        x19, x0 // tmp431,
.L135:
        add        x0, sp, 104        // tmp435,,
        bl         _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        add        x0, sp, 136        // tmp438,,
        bl         _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        b          .L133              //
.L136:
        mov        x19, x0 // tmp428,
.L133:
        add        x0, sp, 176        // tmp439,,
        bl         _ZNSt7__cxx1112basic_stringIcSt11char_traitsIcESaIcEED1Ev
//
        mov        x0, x19 // D.49583, tmp428
.LEHB20:
        bl         _Unwind_Resume              //
.LEHE20:
.L141:
        ldp        x19, x30, [sp], 416        //,,,
        .cfi_restore 30
```

```
        .cfi_restore 19
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1681:
        .section        .gcc_except_table
.LLSDA1681:
        .byte   0xff
        .byte   0xff
        .byte   0x1
        .uleb128 .LLSDACSE1681-.LLSDACSB1681
.LLSDACSB1681:
        .uleb128 .LEHB13-.LFB1681
        .uleb128 .LEHE13-.LEHB13
        .uleb128 0
        .uleb128 0
        .uleb128 .LEHB14-.LFB1681
        .uleb128 .LEHE14-.LEHB14
        .uleb128 .L136-.LFB1681
        .uleb128 0
        .uleb128 .LEHB15-.LFB1681
        .uleb128 .LEHE15-.LEHB15
        .uleb128 .L137-.LFB1681
        .uleb128 0
        .uleb128 .LEHB16-.LFB1681
        .uleb128 .LEHE16-.LEHB16
        .uleb128 .L138-.LFB1681
        .uleb128 0
        .uleb128 .LEHB17-.LFB1681
        .uleb128 .LEHE17-.LEHB17
        .uleb128 .L139-.LFB1681
        .uleb128 0
        .uleb128 .LEHB18-.LFB1681
        .uleb128 .LEHE18-.LEHB18
        .uleb128 .L140-.LFB1681
        .uleb128 0
        .uleb128 .LEHB19-.LFB1681
        .uleb128 .LEHE19-.LEHB19
        .uleb128 .L139-.LFB1681
        .uleb128 0
        .uleb128 .LEHB20-.LFB1681
        .uleb128 .LEHE20-.LEHB20
        .uleb128 0
        .uleb128 0
.LLSDACSE1681:
        .text
        .size   main, .-main
        .section        .text._ZSt3minIiERKT_S2_S2_,"axG",@progbits,_ZSt3minIiER
KT_S2_S2_,comdat
        .align  2
        .weak   _ZSt3minIiERKT_S2_S2_
        .type   _ZSt3minIiERKT_S2_S2_, %function
_ZSt3minIiERKT_S2_S2_:
.LFB1936:
        .cfi_startproc
        sub        sp, sp, #16        //,,
        .cfi_def_cfa_offset 16
        str        x0, [sp, 8]        // __a, __a
        str        x1, [sp]           // __b, __b
// /usr/include/c++/11/bits/stl_algobase.h:235:        if (__b < __a)
        ldr        x0, [sp]           // tmp96, __b
        ldr        w1, [x0]           // _1, *__b_5(D)
```

```
        ldr     x0, [sp, 8]     // tmp97, __a
        ldr     w0, [x0]        // _2, *__a_6(D)
// /usr/include/c++/11/bits/stl_algobase.h:235:      if (__b < __a)
        cmp     w1, w0  // _1, _2
        bge     .L150   //,
// /usr/include/c++/11/bits/stl_algobase.h:236:          return __b;
        ldr     x0, [sp]        // _3, __b
        b       .L151   //
.L150:
// /usr/include/c++/11/bits/stl_algobase.h:237:          return __a;
        ldr     x0, [sp, 8]     // _3, __a
.L151:
// /usr/include/c++/11/bits/stl_algobase.h:238:      }
        add     sp, sp, 16      //,,
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE1936:
        .size   _ZSt3minIiERKT_S2_S2_, .-_ZSt3minIiERKT_S2_S2_
        .weak   _ZTISt9bad_alloc
        .section        .data.rel.ro._ZTISt9bad_alloc,"awG",@progbits,_ZTISt9ba
d_alloc,comdat
        .align  3
        .type   _ZTISt9bad_alloc, %object
        .size   _ZTISt9bad_alloc, 24
_ZTISt9bad_alloc:
// <anonymous>:
// <anonymous>:
        .xword  _ZTVN10__cxxabiv120__si_class_type_infoE+16
// <anonymous>:
        .xword  _ZTSSt9bad_alloc
// <anonymous>:
        .xword  _ZTISt9exception
        .weak   _ZTSSt9bad_alloc
        .section        .rodata._ZTSSt9bad_alloc,"aG",@progbits,_ZTSSt9bad_alloc
,comdat
        .align  3
        .type   _ZTSSt9bad_alloc, %object
        .size   _ZTSSt9bad_alloc, 13
_ZTSSt9bad_alloc:
        .string "St9bad_alloc"
        .text
        .align  2
        .type   _Z41__static_initialization_and_destruction_0ii, %function
_Z41__static_initialization_and_destruction_0ii:
.LFB2129:
        .cfi_startproc
        str     x30, [sp, -32]! //,
        .cfi_def_cfa_offset 32
        .cfi_offset 30, -32
        str     w0, [sp, 28]    // __initialize_p, __initialize_p
        str     w1, [sp, 24]    // __priority, __priority
// main.cpp:512: }
        ldr     w0, [sp, 28]    // tmp92, __initialize_p
        cmp     w0, 1   // tmp92,
        bne     .L154           //,
// main.cpp:512: }
        ldr     w1, [sp, 24]    // tmp93, __priority
        mov     w0, 65535       // tmp94,
        cmp     w1, w0  // tmp93, tmp94
        bne     .L154           //,
// /usr/include/c++/11/iostream:74:    static ios_base::Init __ioinit;
```

```
        adrp    x0, _ZStL8__ioinit      // tmp95,
        add     x0, x0, :lo12:_ZStL8__ioinit    //, tmp95,
        bl      _ZNSt8ios_base4InitC1Ev         //
        adrp    x0, __dso_handle        // tmp96,
        add     x2, x0, :lo12:__dso_handle      //, tmp96,
        adrp    x0, _ZStL8__ioinit      // tmp97,
        add     x1, x0, :lo12:_ZStL8__ioinit    //, tmp97,
        adrp    x0, :got:_ZNSt8ios_base4InitD1Ev        // tmp98,
        ldr     x0, [x0, #:got_lo12:_ZNSt8ios_base4InitD1Ev]    //, tmp98,
        bl      __cxa_atexit            //
.L154:
// main.cpp:512: }
        nop
        ldr     x30, [sp], 32   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE2129:
        .size   _Z41__static_initialization_and_destruction_0ii, .-_Z41__static_
initialization_and_destruction_0ii
        .weak   _ZTISt9exception
        .section        .data.rel.ro._ZTISt9exception,"awG",@progbits,_ZTISt9ex
ception,comdat
        .align  3
        .type   _ZTISt9exception, %object
        .size   _ZTISt9exception, 16
_ZTISt9exception:
// <anonymous>:
// <anonymous>:
        .xword  _ZTVN10__cxxabiv117__class_type_infoE+16
// <anonymous>:
        .xword  _ZTSSt9exception
        .weak   _ZTSSt9exception
        .section        .rodata._ZTSSt9exception,"aG",@progbits,_ZTSSt9exception
,comdat
        .align  3
        .type   _ZTSSt9exception, %object
        .size   _ZTSSt9exception, 13
_ZTSSt9exception:
        .string "St9exception"
        .text
        .align  2
        .type   _GLOBAL__sub_I_CONTROLS, %function
_GLOBAL__sub_I_CONTROLS:
.LFB2130:
        .cfi_startproc
        str     x30, [sp, -16]! //,
        .cfi_def_cfa_offset 16
        .cfi_offset 30, -16
// main.cpp:512: }
        mov     w1, 65535       //,
        mov     w0, 1   //,
        bl      _Z41__static_initialization_and_destruction_0ii        //
        ldr     x30, [sp], 16   //,
        .cfi_restore 30
        .cfi_def_cfa_offset 0
        ret
        .cfi_endproc
.LFE2130:
        .size   _GLOBAL__sub_I_CONTROLS, .-_GLOBAL__sub_I_CONTROLS
        .section        .init_array,"aw"
```

```
        .align  3
        .xword  _GLOBAL__sub_I_CONTROLS
        .hidden DW.ref.__gxx_personality_v0
        .weak   DW.ref.__gxx_personality_v0
        .section        .data.rel.local.DW.ref.__gxx_personality_v0,"awG",@prog
bits,DW.ref.__gxx_personality_v0,comdat
        .align  3
        .type   DW.ref.__gxx_personality_v0, %object
        .size   DW.ref.__gxx_personality_v0, 8
DW.ref.__gxx_personality_v0:
        .xword  __gxx_personality_v0
        .hidden __dso_handle
        .ident  "GCC: (Ubuntu 11.3.0-1ubuntu1~22.04) 11.3.0"
        .section        .note.GNU-stack,"",@progbits
```