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Missionaries and Cannibals State Space Problem Solver

Section 1:

```
;------------------------------------------------------------------------
; GENERAL INFORMATION
;
; FILE: mc_ssps.l
; DATE: Fall 2020
; LINE: State Space Solver for the Missionaries and Cannibals Problem
;------------------------------------------------------------------------
;------------------------------------------------------------------------
; PROGRAM DESCRIPTION
;
; This program is a state space problem solver for a classic missionaries and
; cannibls problem. An explicit state space tree is grown in concert with breadth
; first search for a solution.
;------------------------------------------------------------------------
;------------------------------------------------------------------------
; REPRESENTATIONAL NOTES
;
; Banks are represented as a 3-slot class consisting of
; missionaries, cannibals, and boat.
;
; States are represented as a 2-slot class consisting of
; left-bank and right-bank.
;
; Operators are represented as a 3-slot class consisting of
; a name, a precondition, and a description.
;
; Nodes are represented as a 4-slot class consisting of
; a name, a state, a parent node, and a move (state space operator)
;------------------------------------------------------------------------
;------------------------------------------------------------------------
; MODELING A BANK
( defclass bank ()
 (
   ( missionaries :accessor bank-missionaries :initarg :missionaries )
   ( cannibals :accessor bank-cannibals :initarg :cannibals )
   ( boat :accessor bank-boat :initarg :boat )
```

```lisp
  )
)
( defmethod display ( ( b bank ) )
  ( format t "MISSIONARIES: ~A CANNIBALS: ~A BOAT=~A~%" ( bank-missionaries b )
( bank-cannibals b ) (bank-boat b ) )
)

;--------------------------------
; Moving banks
( defmethod move-m ( ( b1 bank ) ( b2 bank) )
  ( pop ( bank-missionaries b1 ) )
  ( push 'M ( bank-missionaries b2 ) )
  ( setf ( bank-boat b1 ) nil )
  ( setf ( bank-boat b2 ) 'B )
  nil
)
( defmethod move-c ( ( b1 bank ) ( b2 bank) )
  ( pop ( bank-cannibals b1 ) )
  ( push 'C ( bank-cannibals b2 ) )
  ( setf ( bank-boat b1 ) nil )
  ( setf ( bank-boat b2 ) 'B )
  nil
)


( defmethod move-mm ( ( b1 bank ) ( b2 bank) )
  ( pop ( bank-missionaries b1 ) )
  ( push 'M ( bank-missionaries b2 ) )
  ( pop ( bank-missionaries b1 ) )
  ( push 'M ( bank-missionaries b2 ) )
  ( setf ( bank-boat b1 ) nil )
  ( setf ( bank-boat b2 ) 'B )
  nil
)
( defmethod move-cc ( ( b1 bank ) ( b2 bank) )
  ( pop ( bank-cannibals b1 ) )
  ( push 'C ( bank-cannibals b2 ) )
  ( pop ( bank-cannibals b1 ) )
  ( push 'C ( bank-cannibals b2 ) )
  ( setf ( bank-boat b1 ) nil )
```

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  ( setf ( bank-boat b2 ) 'B )
  nil
)




( defmethod move-mc ( ( b1 bank ) ( b2 bank) )
  ( pop ( bank-cannibals b1 ) )
  ( push 'C ( bank-cannibals b2 ) )
  ( pop ( bank-missionaries b1 ) )
  ( push 'M ( bank-missionaries b2 ) )
  ( setf ( bank-boat b1 ) nil )
  ( setf ( bank-boat b2 ) 'B )
  nil
)

;----------------------------------------------------------------
( defmethod equal-bank-p ( ( b1 bank ) ( b2 bank ) )
  ( and
    ( equal ( bank-missionaries b1 ) ( bank-missionaries b2 ) )
    ( equal ( bank-cannibals b1 ) ( bank-cannibals b2 ) )
    ( equal ( bank-boat b1 ) ( bank-boat b2 ) )
  )
)
;----------------------------------------------------------------
; MODELLING A STATE
( defclass state ()
  (
    ( left-bank :accessor state-left-bank :initarg :left-bank )
    ( right-bank :accessor state-right-bank :initarg :right-bank )
  )
)

( defmethod display ( ( s state ) )
  ( display ( state-left-bank s ) )
  ( display ( state-right-bank s ) )
  nil
```

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)
( defmethod copy-state ( ( s state ) )
  ( setf new-left-bank ( copy-bank ( state-left-bank s ) ) )
  ( setf new-right-bank ( copy-bank ( state-right-bank s ) ) )
  ( make-instance 'state :left-bank new-left-bank :right-bank new-right-bank )
)


( defmethod copy-bank ( ( b bank ) &aux new-boat )
  ( setf new-boat nil )
  ( if ( eq ( bank-boat b ) 'B ) ( setf new-boat nil ) )
  ( make-instance 'bank :missionaries ( copy-list ( bank-missionaries b ) ) :cannibals (
copy-list
  ( bank-cannibals b ) ) :boat new-boat )
)
( defmethod equal-state-p ( ( s1 state ) ( s2 state ) )
  ( and
    ( equal-bank-p ( state-right-bank s1 ) ( state-right-bank s2 ) )
    ( equal-bank-p ( state-left-bank s1 ) ( state-left-bank s2 ) )
  )
)
; Checks applicability
( defmethod applicable-move-c-lr ( ( s state ) )
  ( setf lb ( state-left-bank s ) )
  ( and
    ( member 'C ( bank-cannibals lb ) )
    ( equal 'B ( bank-boat lb ) )
  )
)


( defmethod applicable-move-cc-lr ( ( s state) )
  ( setf lb ( state-left-bank s ) )
  ( and
    ( >= ( count 'C ( bank-cannibals lb ) ) 2 )
    ( equal 'B ( bank-boat lb ) )
  )
)
```

```lisp
( defmethod applicable-move-m-lr ( ( s state) )
  ( setf lb ( state-left-bank s ) )
  ( and
    ( member 'M ( bank-missionaries lb ) )
    ( equal 'B ( bank-boat lb ) )
  )
)
( defmethod applicable-move-mm-lr ( ( s state) )
  ( setf lb ( state-left-bank s ) )
  ( and
    ( >= ( count 'M ( bank-missionaries lb ) ) 2 )
    ( equal 'B ( bank-boat lb ) )
  )
)


( defmethod applicable-move-mc-lr ( ( s state) )
  ( setf lb ( state-left-bank s ) )
  ( and
    ( member 'M ( bank-missionaries lb ) )
    ( member 'M ( bank-missionaries lb ) )
    ( equal 'B ( bank-boat lb ) )
  )
)
( defmethod applicable-move-c-rl ( ( s state ) )
  ( setf rb ( state-right-bank s ) )
  ( and
    ( member 'C ( bank-cannibals rb ) )
    ( equal 'B ( bank-boat rb ) )
  )
)


( defmethod applicable-move-cc-rl ( ( s state) )
  ( setf rb ( state-right-bank s ) )
  ( and
    ( >= ( count 'C ( bank-cannibals rb ) ) 2 )
    ( equal 'B ( bank-boat rb ) )
  )
)
```

```
( defmethod applicable-move-m-rl ( ( s state) )
  ( setf rb ( state-right-bank s ) )
  ( and
    ( member 'M ( bank-missionaries rb ) )
    ( equal 'B ( bank-boat rb ) )
  )
)

( defmethod applicable-move-mm-rl ( ( s state) )
  ( setf rb ( state-right-bank s ) )
  ( and
    ( >= ( count 'M ( bank-missionaries rb ) ) 2 )
    ( equal 'B ( bank-boat rb ) )
  )
)

( defmethod applicable-move-mc-rl ( ( s state) )
  ( setf rb ( state-right-bank s ) )
  ( and
    ( member 'M ( bank-missionaries rb ) )
    ( member 'M ( bank-missionaries rb ) )
        ( equal 'B ( bank-boat rb ) )
  )
)
( defmethod applicablep ( ( op operator ) ( n node ) )
  ( cond
    ( ( eq ( operator-name op ) 'move-c-lr )
      ( applicable-move-c-lr ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-cc-lr )
      ( applicable-move-cc-lr ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-m-lr )
      ( applicable-move-m-lr ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-mm-lr )
      ( applicable-move-mm-lr ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-mc-lr )
```

```
      ( applicable-move-mc-lr ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-c-rl )
      ( applicable-move-c-rl ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-cc-rl )
      ( applicable-move-cc-rl ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-m-rl )
      ( applicable-move-m-rl ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-mm-rl )
      ( applicable-move-mm-rl ( node-state n ) )
    )
    ( ( eq ( operator-name op ) 'move-mc-rl )
      ( applicable-move-mc-rl ( node-state n ) )
    )
  )
)
; Goal State
( defmethod goalp ( ( s state ) )
  ( and
    ( leftbank-goal-p ( state-left-bank s ) )
    ( rightbank-goal-p ( state-right-bank s ) )
  )
)


( defmethod leftbank-goal-p ( ( b bank ) )
  ( and
    ( null ( bank-missionaries b ) )
    ( null ( bank-cannibals b ) )
    ( null ( bank-boat b ) )
  )
)


( defmethod rightbank-goal-p ( ( b bank ) )
  ( and
    ( equal '( M M M ) ( bank-missionaries b ) )
```

```
    ( equal '( C C C ) ( bank-cannibals b ) )
    ( equal 'B ( bank-boat b ) )
  )
)
;--------------------------------
; Feast State
( defmethod feast-state-p ( ( s state ) )
  ( or
    ( leftbank-feast-p ( state-left-bank s ) )
    ( rightbank-feast-p ( state-right-bank s ) )
  )
)


( defmethod leftbank-feast-p ( ( lb bank ) )
  ( and
    ( member 'M ( bank-missionaries lb ) )
    ( > ( count 'C ( bank-cannibals lb ) ) ( count 'M ( bank-missionaries lb ) ) )
  )
)


( defmethod rightbank-feast-p ( ( rb bank ) )
  ( and
    ( member 'M ( bank-missionaries rb ) )
    ( > ( count 'C ( bank-cannibals rb ) ) ( count 'M ( bank-missionaries rb ) ) )
  )
)
;----------------------------------------------------------------
; MODELLING A NODE
( defclass node ()
  (
    ( name :accessor node-name :initarg :name )
    ( state :accessor node-state :initarg :state )
    ( parent :accessor node-parent :initarg :parent )
    ( operator :accessor node-operator :initarg :operator )
  )
)

( defmethod display ( ( n node ) )
```

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   ( format t "~A " ( node-name n ) )
   ( if ( not ( rootp n ) )
     ( let ()
       ( format t "~A " ( node-name ( node-parent n ) ) )
       ( display ( node-operator n ) )
     )
   )
   ( terpri )
   ( display ( node-state n ) )
   nil
)

( defmethod display-the-e-node ( ( e-node node ) )
  ( format t ">>> E-NODE~%" )
  ( display e-node )
  ( terpri )
  nil
)
; root node
( defmethod rootp ( ( n node ) )
  ( eq ( node-name n ) 'root )
)
;---------------------------------
; Checks if node has been explored
( defmethod exploredp ( ( s state ) )
  ( setf explored-states ( mapcar #'node-state *explored* ) )
  ( member s explored-states :test #'equal-state-p )
)

( defmethod equal-node-p ( ( n1 node ) ( n2 node ) )
  ( equal-state-p ( node-state n1 ) ( node-state n2 ) )
)

;------------------------------------------------------------------------------
; MODELING A STATE SPACE OPERATOR
( defclass operator ()
  (
    ( name :accessor operator-name :initarg :name )
    ( precondition :accessor operator-precondition :initarg :precondition )
    ( description :accessor operator-description :initarg :description )
```

```lisp
    )
)

( defmethod display ( ( o operator ) )
  ( format t "~A " ( operator-name o ) )
)
( defmethod establish-operators ()
  ( setf *move-m-lr*
    ( make-instance 'operator
         :name 'move-m-lr
         :precondition "There is a missionary and the boat on the left bank."
         :description "Move one missionary to the right bank."
         )
  )
  ( setf *move-mm-lr*
    ( make-instance 'operator
         :name 'move-mm-lr
         :precondition "There are two missionaries and the boat on the left bank."
         :description "Move two missionaries to the right bank."
         )
  )
  ( setf *move-c-lr*
    ( make-instance 'operator
         :name 'move-c-lr
         :precondition "There is a cannibal and the boat on the left bank."
         :description "Move one cannibal to the right bank."
         )
  )
  ( setf *move-cc-lr*
    ( make-instance 'operator
         :name 'move-cc-lr
         :precondition "There are two cannibals and the boat on the left bank."
         :description "Move two cannibals to the right bank."
         )
  )
  ( setf *move-mc-lr*
    ( make-instance 'operator
         :name 'move-mc-lr
         :precondition "There is atleast one cannibal and one missionary and the boat on
the left bank."
```

```
                :description "Move one cannibal and one missionary to the right bank."
        )
  )
  ( setf *move-m-rl*
    ( make-instance 'operator
          :name 'move-m-rl
          :precondition "There is a missionary and the boat on the right bank."
          :description "Move one missionary to the left bank."
        )
  )
  ( setf *move-mm-rl*
    ( make-instance 'operator
          :name 'move-mm-rl
          :precondition "There are two missionaries and the boat on the right bank."
          :description "Move two missionaries to the left bank."
        )
  )
  ( setf *move-c-rl*
    ( make-instance 'operator
          :name 'move-c-rl
          :precondition "There is a cannibal and the baot on the right bank."
          :description "Move one cannibal to the left bank."
        )
  )
  ( setf *move-cc-rl*
    ( make-instance 'operator
          :name 'move-cc-rl
          :precondition "There are two cannibals and the boat on the right bank."
          :description "Move two cannibals to the left bank."
        )
  )
  ( setf *move-mc-rl*
    ( make-instance 'operator
          :name 'move-mc-rl
          :precondition "There is atleast one cannibal and one missionaries and the boat
on the right bank."
          :description "Move one cannibal and one missionary to the left bank."
        )
  )
  ( setf *operator-list*
```

```
        ( list *move-m-lr* *move-m-rl* *move-c-lr* *move-c-rl* *move-mm-lr* *move-mm-rl*
            *move-cc-lr* *move-cc-rl* *move-mc-lr* *move-mc-rl*
        )
    )
    nil
)
;-------------------------------------------------------------------------------
; THE MAIN PROGRAM - argument values of e u x eu ex ux eux will cause tracing
( defmethod mc ( ( trace-instruction symbol ) )
    ( setf *trace-instruction* trace-instruction )
    ( establish-operators )
    ( setup )
    ( solve )
)

( defmethod display-the-unexplored-list ()
    ( format t "~%>>> UNEXPLORED LIST~%" )
    ( display-unexplored-states )
    nil
)


( defmethod display-unexplored-states ()
    ( mapcar #'display *unexplored* )
    nil
)

( defmethod display-the-explored-list ()
    ( format t "~%>>> EXPLORED LIST~%" )
    ( display-explored-states )
    ( terpri )
    nil
)

( defmethod display-explored-states ()
    ( mapcar #'display *explored* )
    nil
)
( defmethod display-solution ( ( n node ) )
    ( cond
```

```lisp
    ( ( rootp n )
      ( terpri )
    )
    ( t
      ( display-solution ( node-parent n ) )
      ( format t "~A~%" ( operator-description ( node-operator n ) ) )
    )
  )
)
;----------------------------------------------------------------------------
; SOLVE PERFORMS BREADTH FIRST SEARCH
( defmethod solve ( &aux kids e-node )
  ( if ( member *trace-instruction* '( u eu ux eux ) ) ( display-the-unexplored-list ) )
  ( if ( member *trace-instruction* '( x ex ux eux ) ) ( display-the-explored-list ) )
  ( cond
    ( ( null *unexplored* )
      ( format t ">>> THERE IS NO SOLUTION. ~%" )
      ( return-from solve NIL )
    )
  )
  ( setf e-node ( pop *unexplored* ) )
  ( if ( member *trace-instruction* '( e ex eu eux ) ) ( display-the-e-node e-node ) )
  ( cond
    ( ( goalp ( node-state e-node ) )
      ( format t "~%>>> GOT A SOLUTION!" )
      ( display-solution e-node )
      ( display-solution e-node )
    )
    ( ( feast-state-p ( node-state e-node ) )
      ( solve )
    )
    ( ( exploredp ( node-state e-node ) )
      ( solve )
    )
    ( t
      ( push e-node *explored* )
      ( setf kids ( children-of e-node ) )
      ( setf *unexplored* ( append *unexplored* kids ) )
      ( solve )
    )
```

```
  )
  nil
)
;----------------------------------------------------------------
; THE SETUP
( defmethod setup ( &aux root lb rb istate )
  ;; establish root node
  ( setf lb ( make-instance 'bank :missionaries '(m m m) :cannibals '(c c c) :boat 'b ) )
  ( setf rb ( make-instance 'bank :missionaries '() :cannibals '() :boat nil ) )
  ( setf istate ( make-instance 'state :left-bank lb :right-bank rb ) )
  ( setf root ( make-instance 'node :state istate :name 'root ) )
  ;; initialize list of unexplored nodes
  ( setf *unexplored* ( list root ) )
  ;; initialize list of explored nodes
  ( setf *explored* () )
  ; get ready to create good names
  ( setf *ng* ( make-instance 'name-generator :prefix "N" ) )
)


;----------------------------------------------------------------
; GENERATING CHILDREN
( defmethod children-of ( ( e-node node ) &aux kids )
  ; LEFT BANK TO RIGHT BANK
  ( if ( applicablep *move-c-lr* e-node )
    ( push ( child-of e-node *move-c-lr* ) kids )
  )
  ( if ( applicablep *move-cc-lr* e-node )
    ( push ( child-of e-node *move-cc-lr* ) kids )
  )
  ( if ( applicablep *move-m-lr* e-node )
    ( push ( child-of e-node *move-m-lr* ) kids )
  )
  ( if ( applicablep *move-mm-lr* e-node )
    ( push ( child-of e-node *move-mm-lr* ) kids )
  )
  ( if ( applicablep *move-mc-lr* e-node )
    ( push ( child-of e-node *move-mc-lr* ) kids )
  )
  ; RIGHT BANK TO LEFT BANK
```

```lisp
  ( if ( applicablep *move-c-rl* e-node )
    ( push ( child-of e-node *move-c-rl* ) kids )
   )
  ( if ( applicablep *move-cc-rl* e-node )
    ( push ( child-of e-node *move-cc-rl* ) kids )
   )
  ( if ( applicablep *move-m-rl* e-node )
    ( push ( child-of e-node *move-m-rl* ) kids )
   )
  ( if ( applicablep *move-mm-rl* e-node )
    ( push ( child-of e-node *move-mm-rl* ) kids )
   )
  ( if ( applicablep *move-mc-rl* e-node )
    ( push ( child-of e-node *move-mc-rl* ) kids )
   )
  kids
 )
( defmethod child-of ( ( n node ) ( o operator ) &aux c )
  ( setf new-node ( make-instance 'node ) )
  ( setf ( node-name new-node ) ( next *ng* ) )
  ( setf ( node-parent new-node ) n )
  ( setf ( node-operator new-node ) o )
  ( setf c ( copy-state ( node-state n ) ) )
  ( apply-operator o c )
  ( setf ( node-state new-node ) c )
  new-node
 )
( defmethod apply-operator ( ( op operator ) ( s state ) )
  ( setf lb ( state-left-bank s ) )
  ( setf rb ( state-right-bank s ) )
  ( cond
    ( ( eq ( operator-name op ) 'move-m-lr )
     ( move-m lb rb )
    )
    ( ( eq ( operator-name op ) 'move-c-lr )
     ( move-c lb rb )
    )
    ( ( eq ( operator-name op ) 'move-mm-lr )
     ( move-mm lb rb )
    )
```

```lisp
    ( ( eq ( operator-name op ) 'move-cc-lr )
      ( move-cc lb rb )
    )
    ( ( eq ( operator-name op ) 'move-mc-lr )
      ( move-mc lb rb )
    )
    ( ( eq ( operator-name op ) 'move-m-rl )
      ( move-m rb lb )
    )
    ( ( eq ( operator-name op ) 'move-c-rl )
      ( move-c rb lb )
    )
    ( ( eq ( operator-name op ) 'move-mm-rl )
      ( move-mm rb lb )
    )
    ( ( eq ( operator-name op ) 'move-cc-rl )
      ( move-cc rb lb )
    )
    ( ( eq ( operator-name op ) 'move-mc-rl )
      ( move-mc rb lb )
    )
  )
)


;-----------------------------------------------------------------
; MODELLING A NAME-GENERATOR
( defclass name-generator ()
  ( ( prefix :accessor name-generator-prefix :initarg :prefix :initform "name" )
    ( nr :accessor name-generator-nr :initform 0 )
  )
)

( defmethod next ( ( ng name-generator ) )
  ( setf ( name-generator-nr ng ) ( + 1 ( name-generator-nr ng ) ) )
  ( concatenate 'string
    ( name-generator-prefix ng )
    ( write-to-string ( name-generator-nr ng ) )
  )
)
```

Section 2:
CL-USER> (load "MCSSPS3.lsp")
T

CL-USER> (mc 'n)

>>> GOT A SOLUTION!
Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.

Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.
NIL

Section 3:
CL-USER> (mc 'e)
>>> E-NODE
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N4 ROOT MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=B

>>> E-NODE
N3 ROOT MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: NIL BOAT=B

>>> E-NODE
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> E-NODE
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B

>>> E-NODE
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B

>>> E-NODE
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> E-NODE
N18 N13 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL

>>> E-NODE
N22 N17 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B

>>> E-NODE
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N20 N17 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N19 N17 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B

>>> E-NODE
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N26 N21 MOVE-MM-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL

>>> E-NODE
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL

>>> E-NODE
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL

MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B

>>> E-NODE
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N36 N31 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B

>>> E-NODE
N37 N33 MOVE-C-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B

>>> E-NODE
N43 N38 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N42 N38 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL

>>> E-NODE
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL

>>> E-NODE
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> E-NODE
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

>>> E-NODE
N46 N41 MOVE-MC-LR
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B

>>> GOT A SOLUTION!
Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.

Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.
NIL
CL-USER>

Section 4:
CL-USER> (mc 'ux)

>>> UNEXPLORED LIST
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST

>>> UNEXPLORED LIST
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N4 ROOT MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=B
N3 ROOT MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: NIL BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B

>>> EXPLORED LIST
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N4 ROOT MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=B
N3 ROOT MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=NIL

MISSIONARIES: (M) CANNIBALS: NIL BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N3 ROOT MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: NIL BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N7 N5 MOVE-M-RL

MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N8 N5 MOVE-MC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL

N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N6 N5 MOVE-C-RL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR

MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N10 N2 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N9 N2 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N11 N1 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N15 N7 MOVE-MM-LR

MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N16 N7 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B

N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N15 N7 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST

N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N14 N7 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL

MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N12 N7 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N18 N13 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N17 N13 MOVE-C-RL

MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL

>>> EXPLORED LIST
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N18 N13 MOVE-CC-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL

>>> EXPLORED LIST
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR

MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL

>>> EXPLORED LIST
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST

N22 N17 MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N20 N17 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N19 N17 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B

>>> EXPLORED LIST
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL

MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N20 N17 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N19 N17 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B

>>> EXPLORED LIST
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N20 N17 MOVE-M-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N19 N17 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N27 N21 MOVE-MC-RL

MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N26 N21 MOVE-MM-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N19 N17 MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N26 N21 MOVE-MM-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N26 N21 MOVE-MM-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR

MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N26 N21 MOVE-MM-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL

MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N25 N21 MOVE-M-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL

MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N24 N21 MOVE-CC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B

MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N23 N21 MOVE-C-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N32 N27 MOVE-MC-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL

MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N31 N27 MOVE-MM-LR

MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N30 N27 MOVE-M-LR
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N36 N31 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N29 N27 MOVE-CC-LR
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N36 N31 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR

MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N28 N27 MOVE-C-LR
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
N36 N31 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N36 N31 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: NIL BOAT=NIL
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B

N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N35 N31 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL

MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N34 N31 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR

MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL

>>> EXPLORED LIST
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B

N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N37 N33 MOVE-C-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B

>>> EXPLORED LIST
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B

MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N37 N33 MOVE-C-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N43 N38 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N42 N38 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL

MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N43 N38 MOVE-MC-RL
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=NIL
N42 N38 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B

MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR

MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N42 N38 MOVE-MM-RL
MISSIONARIES: (M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C C) BOAT=NIL
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B

N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

>>> EXPLORED LIST
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B

MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N40 N38 MOVE-CC-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL

N46 N41 MOVE-MC-LR
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
N45 N41 MOVE-M-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N44 N41 MOVE-C-LR
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B

>>> EXPLORED LIST
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL

MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
N46 N41 MOVE-MC-LR
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
N45 N41 MOVE-M-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N44 N41 MOVE-C-LR
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B

>>> EXPLORED LIST
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL

MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> UNEXPLORED LIST
N46 N41 MOVE-MC-LR
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
N45 N41 MOVE-M-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N44 N41 MOVE-C-LR
MISSIONARIES: (M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C C) BOAT=B
N48 N39 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
N47 N39 MOVE-C-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B

>>> EXPLORED LIST
N39 N38 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
N41 N38 MOVE-M-RL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
N38 N33 MOVE-CC-LR
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
N33 N31 MOVE-C-RL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
N31 N27 MOVE-MM-LR
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
N27 N21 MOVE-MC-RL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
N21 N17 MOVE-MM-LR
MISSIONARIES: (M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=B
N17 N13 MOVE-C-RL
MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=NIL
N13 N7 MOVE-CC-LR
MISSIONARIES: (M M M) CANNIBALS: NIL BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C C) BOAT=B
N7 N5 MOVE-M-RL
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: (C) BOAT=NIL
N1 ROOT MOVE-C-LR
MISSIONARIES: (M M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C) BOAT=B
N2 ROOT MOVE-CC-LR

MISSIONARIES: (M M M) CANNIBALS: (C) BOAT=NIL
MISSIONARIES: NIL CANNIBALS: (C C) BOAT=B
N5 ROOT MOVE-MC-LR
MISSIONARIES: (M M) CANNIBALS: (C C) BOAT=NIL
MISSIONARIES: (M) CANNIBALS: (C) BOAT=B
ROOT
MISSIONARIES: (M M M) CANNIBALS: (C C C) BOAT=B
MISSIONARIES: NIL CANNIBALS: NIL BOAT=NIL

>>> GOT A SOLUTION!
Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.

Move one cannibal and one missionary to the right bank.
Move one missionary to the left bank.
Move two cannibals to the right bank.
Move one cannibal to the left bank.
Move two missionaries to the right bank.
Move one cannibal and one missionary to the left bank.
Move two missionaries to the right bank.
Move one cannibal to the left bank.
Move two cannibals to the right bank.
Move one missionary to the left bank.
Move one cannibal and one missionary to the right bank.
NIL