MoveUp   MoveDown

MACHINE Status

SETS & CONSTANTS
MOVEMENT_RESULT = {
  FORWARD_MOVE_SUCCESS, BACKWARD_MOVE_SUCCESS,
  UP_MOVE_SUCCESS, DOWN_MOVE_SUCCESS,
  WARP_DRIVE_SUCCESS, MOVE_FAILED_OUT_OF_BOUNDARY,
  MOVE_FAILED_OUT_OF_POWER,
  MOVE_FAILED_ASTEROID_COLLISION
}

initial_power_units, move_units, collision_units, warp_units

PROPERTIES
initial_power_units : NAT1 & initial_power_units = 50
&
move_units : NAT1 & move_units = 5
&
collision_units : NAT1 & collision_units = 10
&
warp_units : NAT1 & warp_units = 20

VARIABLES
current_row, current_column, route, power_units, accident_count

INVARIANT
current_row : NAT1 & current_row <=7
&
current_column : NAT1 & current_column <=12
&
route : seq(grid)
&
power_units : NAT & power_units <= initial_power_units
&
accident_count : NAT

MoveForward   EngageWarpDrive   MoveBackward