Table 1: State variables and their values for the bin picking process

variable	type	values and (index)
item	object	unknown(0), detected(1), grasped(2), probably_grasped(3), lost(4), placed(5), stuck_in_gripper(6)
barcode	object	unknown(0), scanned(1), correct(2), wrong(3),
box	object	unknown(0), in_arrival(1), arrived(2), detected(3), info_received(4), decommissioned(5), none_present(6)
obstacle	object	unknown(0), obstacle_present(1)
gripper	device	unknown(0), free(1), occupied(2)
conveyor	device	unknown(0), moving(1), stopped(2)
sorter	device	unknown(0), moving(1), stopped(2)
robot	device	unknown(0), find_box_pose(1), inspect_box_pose(2), post_grasp_pose(3), pre_place_pose(4), place_pose(5), check_empty_pose(6), home_pose(7), find_obstacle_pose(8)
warehouse	control	unknown(0), idle(1), box_needed(2), barcode_needed(3), pick_needed(4), picks_completed(5), check_empty_needed(6)
box_detectability	property	unknown(0), unlikely(1), unfeasible(2)
item_detectability	property	unknown(0), unlikely(1), unfeasible(2)
readability	property	unknown(0), unlikely(1), unfeasible(2)
graspability	property	unknown(0), unlikely(1), unfeasible(2)
movability	property	unknown(0), unfeasible(1)