# Ludobot Report

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## 1 Introduction

In this report we will go over what did and didn't work for our program.

## 2 Set-Up

The first step to programming the Ludobots was developing the code for how to connect blocks. Setting up the joints, motors, sensors, and linking parts together so it all functions together.

## 3 Links

The first objective of Ludobots was to set up the simulation and create a block otherwise called a Link. The dimensions of the block were 2 by 2 by 2 but could be manipulated later.

The block could be dragged around and was affected by a simulated gravity of -9.8.

## 4 Tower

Next was to have multiple links in the same simulation at the same time. Simulated, were 25 links on top of each other in a tower of sorts. Each block was unconnected to another, and were all effected by the same physics and could be toppled easily with the right movement.

## 5 Joints

To create joints means to connect the links together to create a uniform subject. They would have a "Torso", "FrontLeg", etc.

The jointed links could each be moved by grabbing any part of the subject. They would be connected along one edge of each link.
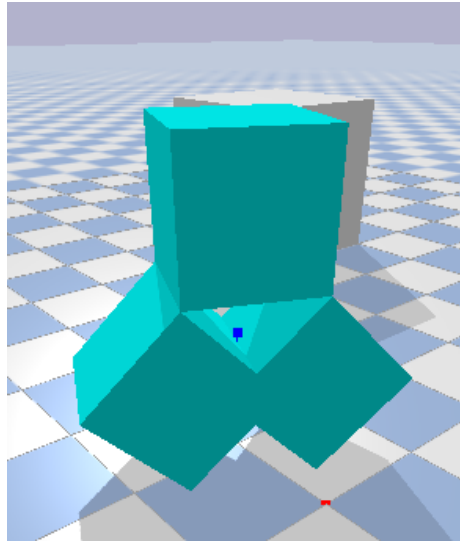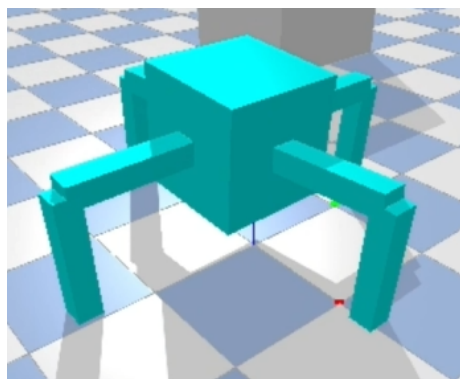
This image shows how the links move when the robot is lifted into the air by the middle and the accompanying movements of the linked squares with such action.

# 6 Sensors

Last was to develop the code for random search, or to get the robot to evolve into doing a particular task.

We were able to create a bot with 4 legs that moved around, though slowly.



A leg was placed on the middle of each side of the bot and moving in a straight line, by in which there was a forward leg and no legs moved diagonally in juxtaposition to their side of the cube, it moved slowly in normal gravity.