CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
Leonardo E. Pena

Project Number
35114

Project Title
Human vs. Robot: The Final Showdown

Abstract

Objectives/Goals
In my science project "Human V.S. Robot The Final Showdown" My goal was to prove the capabilities of a robot in comparison to humans. The statement of the problem was "will a robot sorting in 360 degrees (a full circle), be more efficient than a robot sorting in a line?" I hypothesized that it will be faster and more accurate than a human.

Methods/Materials
Summarized, you must first get eight cups and label them with up to four different colors, each having two different sizes. Then you must find your test subjects and have them sort legos into the matching cups while being timed. Record your data and create graphs accordingly. Then create a design for your robot and build your robot out of Lego Mindstorms 2.0. Once completed, program your robot to sort legos using variables. For example: "Is the Lego red? Is it a 2x2 or a 4x4?" Then time how long it takes for the robot to sort the Legos and compare accuracy and speed to humans.

Results
According to my test results, my hypothesis was correct. My robot was faster and had a lower error rate than humans.I found that the robot sorting in a line was about the same speed as the humans but had less errors. However, the robot sorting in a circle was all around faster and more accurate than humans and the robot sorting in a line.

Conclusions/Discussion
With this science project, I have learned many things. For example, how momentum affects the speed of my robot. I have proven my point and robots are more efficient than humans.

Summary Statement
My project is about comparing the efficiency between a robot and a human.

Help Received
My science teacher provided me with answers for any questions that I had along the way and guided me through my project.