LIGHT CONTROLLED CAR

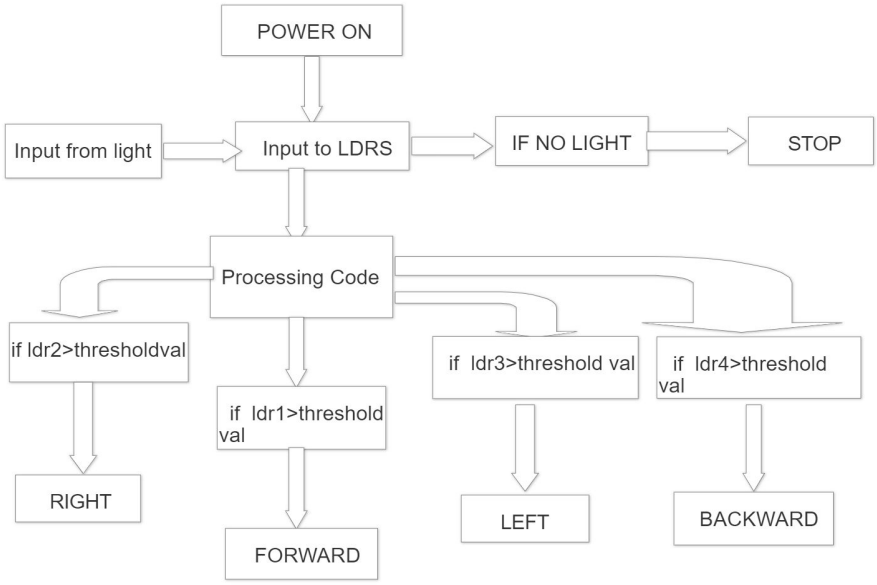
Introduction : -

Toys are the best objects for passing time and equal to companion for most of the kids. The toy which I am presenting is light controlled car is a simple toy controlled by the light to make forward, right, left and stop motions of a car.This is a simple toy and every kid can play with this one .

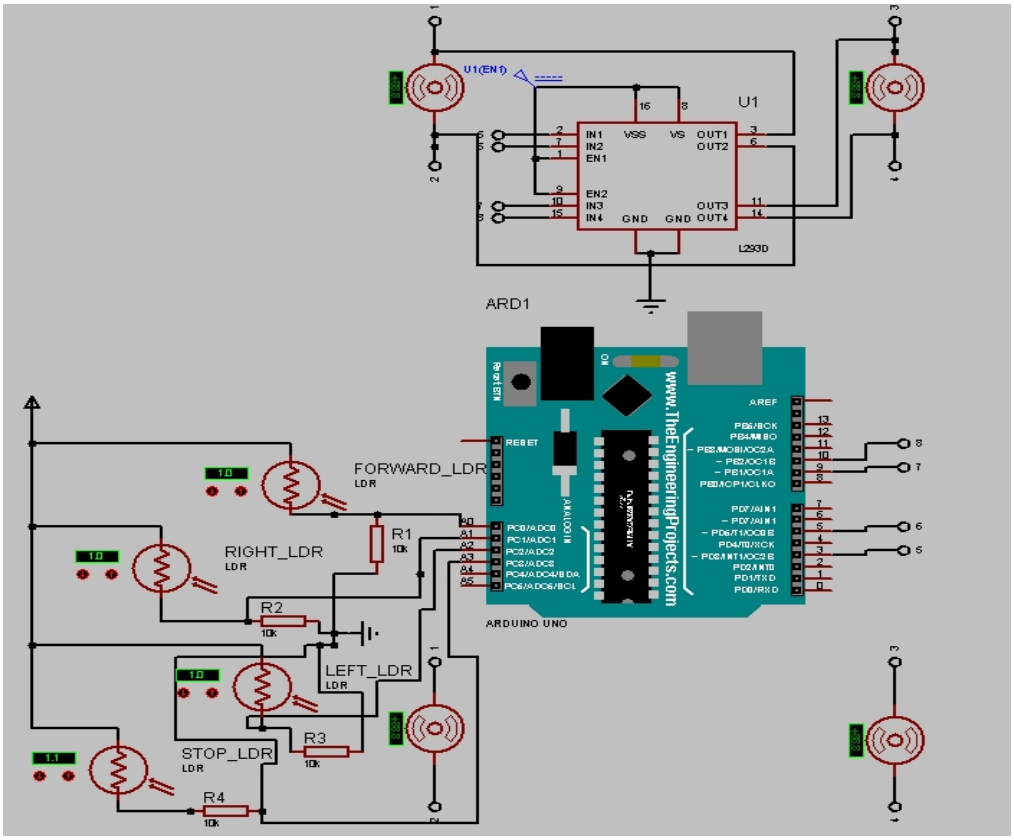
Hardware Required : -

Arduino Uno, Motor driver (L293D), DC Motors (2), wheels (2), caster wheel (1), LDRs, Resistors,connectors, chasis,High intensity light source, Battery.

Block Diagram : -



Cicuit Connection : -



Connections : -

The PWM pins of arduino are connected to motor driver which is connected to the motors. And the ldrs are connected to the power supply with the suitable resistors and one end is connected to analog pins of arduino for taking input.

Working Principle and Algortihm : -

The principle involved is simple is just basic one as we all know that ldr can alter it's resistance values by varying the intensity of light externally and that is resistance is inversly proportional to intensity of light. And now let's move to the working of motor driver. It is just like an amplifier which makes the 12v DC motors run nothing but it amplifies the 5v output values to make intiate motion of a motor. The co ordinater and controller of the all these operations is a microcontroller named ARDUINO UNO.It reads analog values from ldrs as input values from the analog pins the thing here is that these analog values are rhe voltages drop across the ldrs.The microcontroller compares the values with a threshold value and if the value is greatee than a threshold value it will operate motors for moving in various directions. For instance it the ldra has greater value than threshold the MCU will Inertiate the bot to move in forward direction.And now if ldrb has greater value than threshold ones then MCU guides the bot in right direction.Now when our ldrc values has greater value MCU will make bot to left

direction. Finally if ldrd has greater value among all other then MCU will accelerates bot in reverse direction

NOTE: -

It's will be if we operate bot in the place which has less intensity of light

Advantages of buying Toy : -

Today's kids are very much attracted towards PC and mobile phone games and they are lacking in enjoyment which we have when we are kids like playing with other kids physically with toys these toy can help to remove that barrier in today's kids as this toy is cheaper in price and it is very nice product which is not at all a harmful one and each kid can compete with this toy like racing, fighting with toys which makes them to pass there time in addition to getting a lot of enjoyment . As this toy related to a technical one it makes child enthusiastic towards technical aspects.

Cost of the toy : -

S. No	Material	Cost
1	ARDUINO UNO	250/-
2	Motor Driver	75/-
3	Plastic Chasis	100/-
4	Battery(Cell Type)	50/-
5	LDRs &Resistors	15/-
6	Wheels &Caster wheel	50/-
7	Dc Motors	100/-
8	Total	590/-