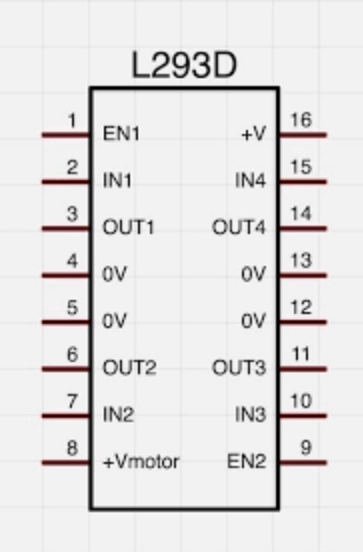
L293D Motor Drive:

L293D H-bridge driver is the most commonly used driver for Bidirectional motor driving applications. This L293D IC allows DC motor to drive on either direction. L293D is a 16-pin IC which can control a set of two DC motors simultaneously in any direction. It means that you can control two DC motor with a single L293D IC. Because it has two H-Bridge Circuit inside.



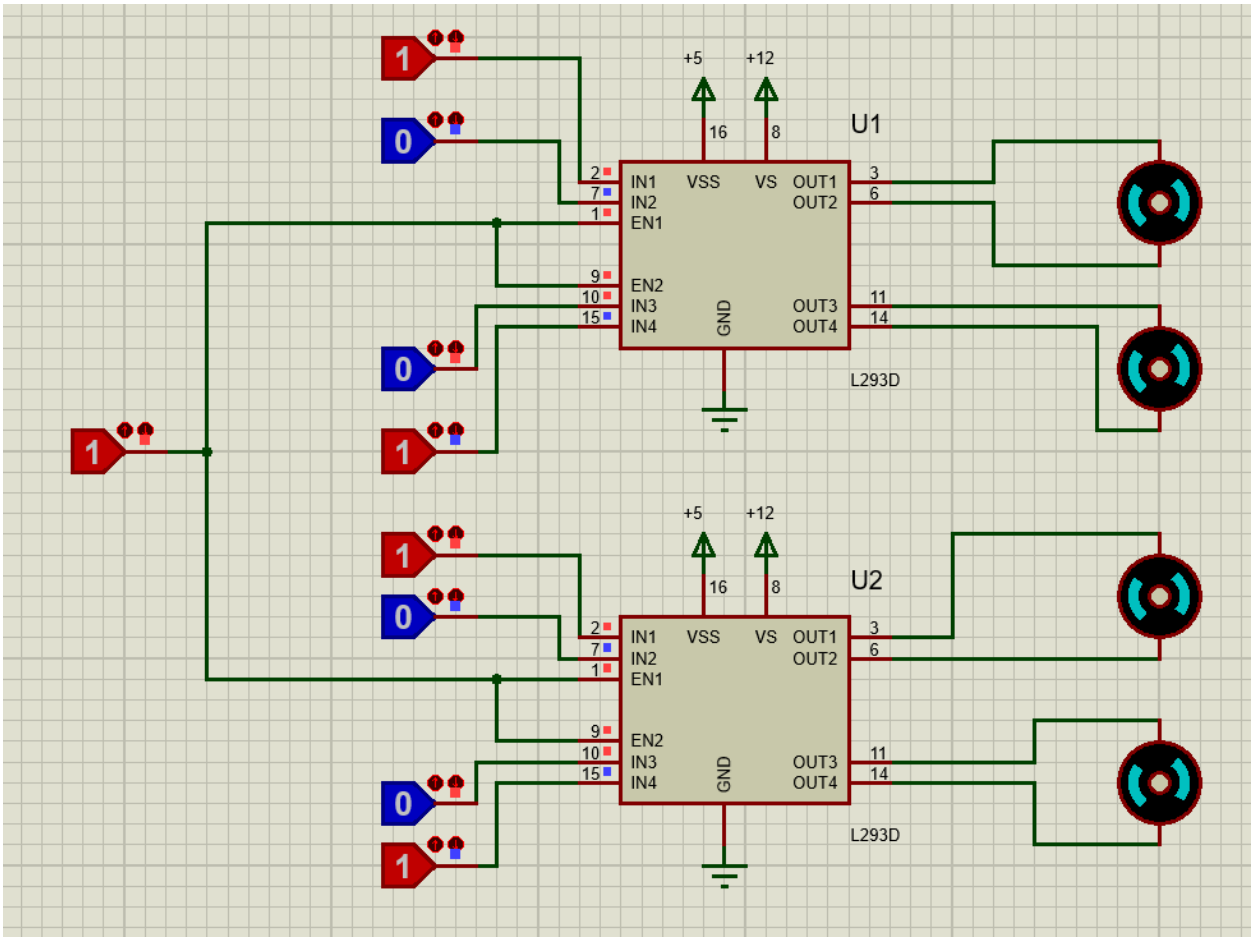
PIN No	PIN NAME	Description
1	ENABLE 1	When the enable pin is high, then the left part of the IC will work otherwise it won't work. This pin is also called as a master control pin of left side.
2	INPUT 1	When the input pin is high, then the flow of current will be through output 1
3	OUTPUT 1	This output-1 pin must be connected to one of the terminals of the motor
4	0V	Connected to Ground
5	0V	Connected to Ground

6	OUTPUT 2	This pin must be connected to one of the terminals of the motor
7	INPUT 2	When this pin is HIGH then the flow of current will be though output 2
8	+Vmotor	This is the voltage pin which is used to supply the voltage to the motor (12v)
9	ENABLE 2	When this pin is high, then the right part of the IC will work & when it is low the right part of the IC won't work. This pin is also called as a master control pin for the right part of the IC.
10	INPUT 3	When this pin is high, then the flow of current will through output-3
11	OUTPUT 3	This pin must be connected to one of the terminals of the motor
12	0V	Connected to Ground
13	0V	Connected to Ground
14	OUTPUT 4	This pin must be connected to one of the terminals of the motor
15	INPUT 4	When this pin is high, then the flow of current will be through output-4
16	+V	This pin is the power source to the integrated circuit (5v)

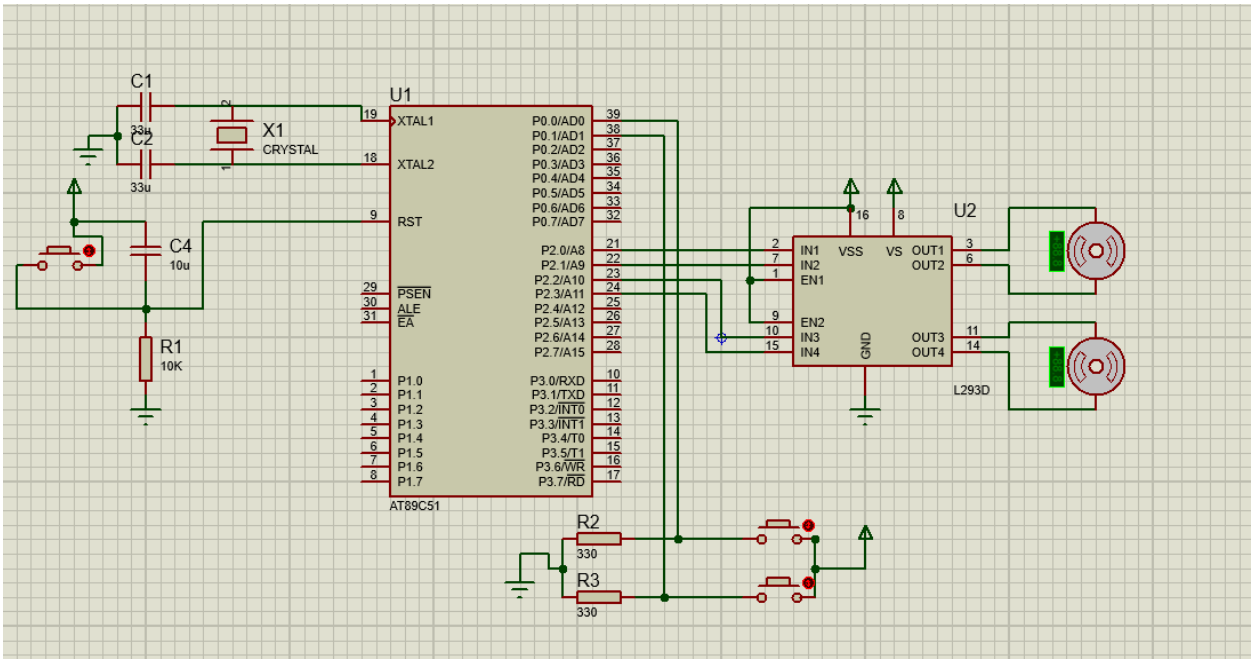
Functions:

ENABLE 1	**INPUT 1**	**INPUT2**	**FUNCTION**
1	1	0	Rotates Anti-clockwise (Reverse)
1	0	1	Rotates Clockwise (Forward)
1	1	1	OFF
1	0	0	OFF
0	X	X	OFF

Implementation of L293D:



Control of motor using L293D:


C1
33u
C2
33u
X1
CRYSTAL
U1
XTAL1
XTAL2
RST
PSEN
ALE
EA
P1.0
P1.1
P1.2
P1.3
P1.4
P1.5
P1.6
P1.7
P0.0/AD0
P0.1/AD1
P0.2/AD2
P0.3/AD3
P0.4/AD4
P0.5/AD5
P0.6/AD6
P0.7/AD7
P2.0/A8
P2.1/A9
P2.2/A10
P2.3/A11
P2.4/A12
P2.5/A13
P2.6/A14
P2.7/A15
P3.0/RXD
P3.1/TXD
P3.2/INT0
P3.3/INT1
P3.4/T0
P3.5/T1
P3.6/WR
P3.7/RD
AT89C51
C4
10u
R1
10K
R2
330
R3
330
U2
IN1
IN2
EN1
EN2
IN3
IN4
VSS
VS
GND
OUT1
OUT2
OUT3
OUT4
L293D