DOOR SENSOR

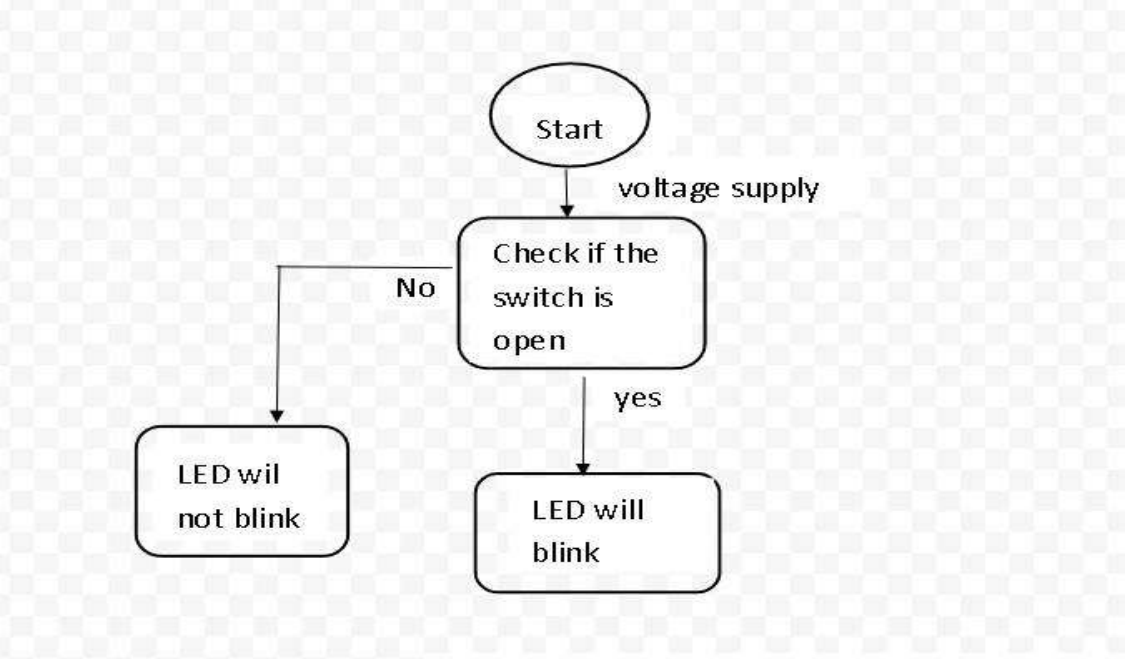
The door sensor is an essential component used in-home security system. The designing of these sensors can be done with two parts which are arranged in parallel to each other. So that the circuit can be formed. When someone tries to open the door then these parts will get separated and breaks the circuit. So the control panel will activate to light up the led. These sensors are very easy to install and portable.

The door sensors come with two pieces a reed switch as well as a magnet. Here the read switch is connected to the door and magnet is arranged to parallel to the switch. So that closed-circuit can be formed when the door is closed. When the door gets open, the switch and the magnet will separate to break the circuit. So the sensor gives an indication to the control panel to generate an alarm.

REQUIREMENTS

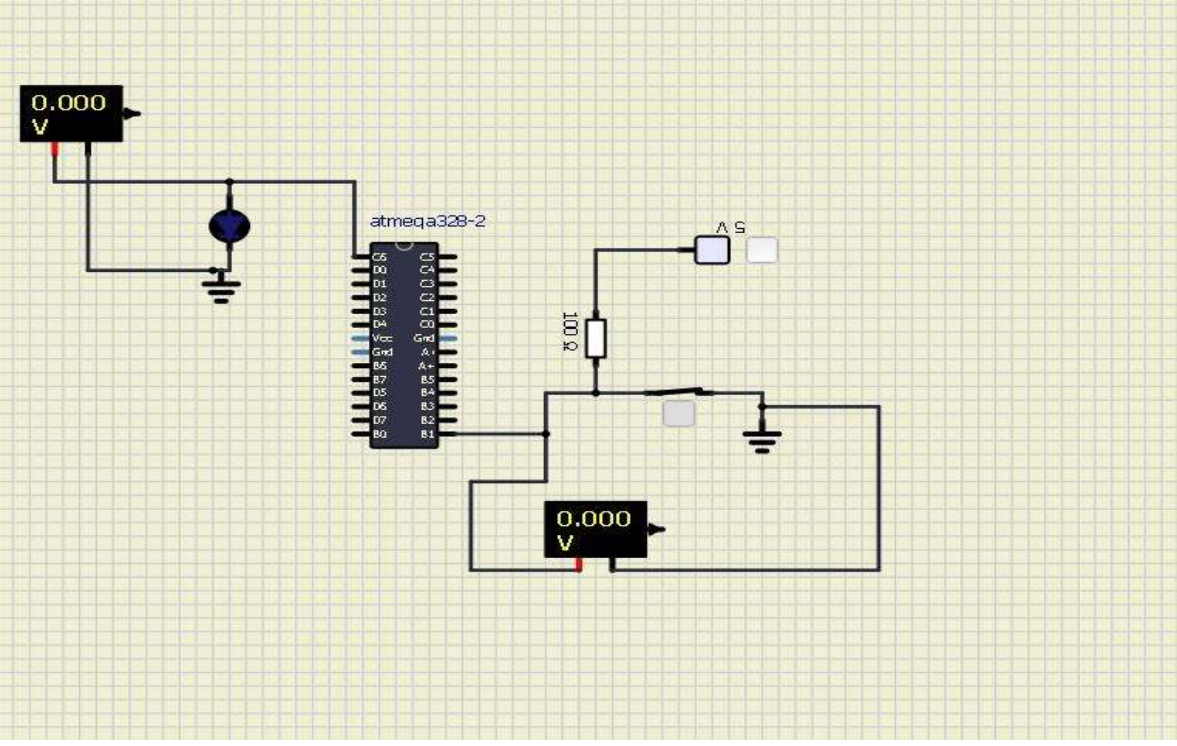
In this project door sensor circuit is built using atmega 328, a door sensor(switch), LED, voltage supply , a resistor and a voltmetre to measure the voltage supply . In this circuit I have used a simple switch in the place of door sensor.

Given below is the flow diagram



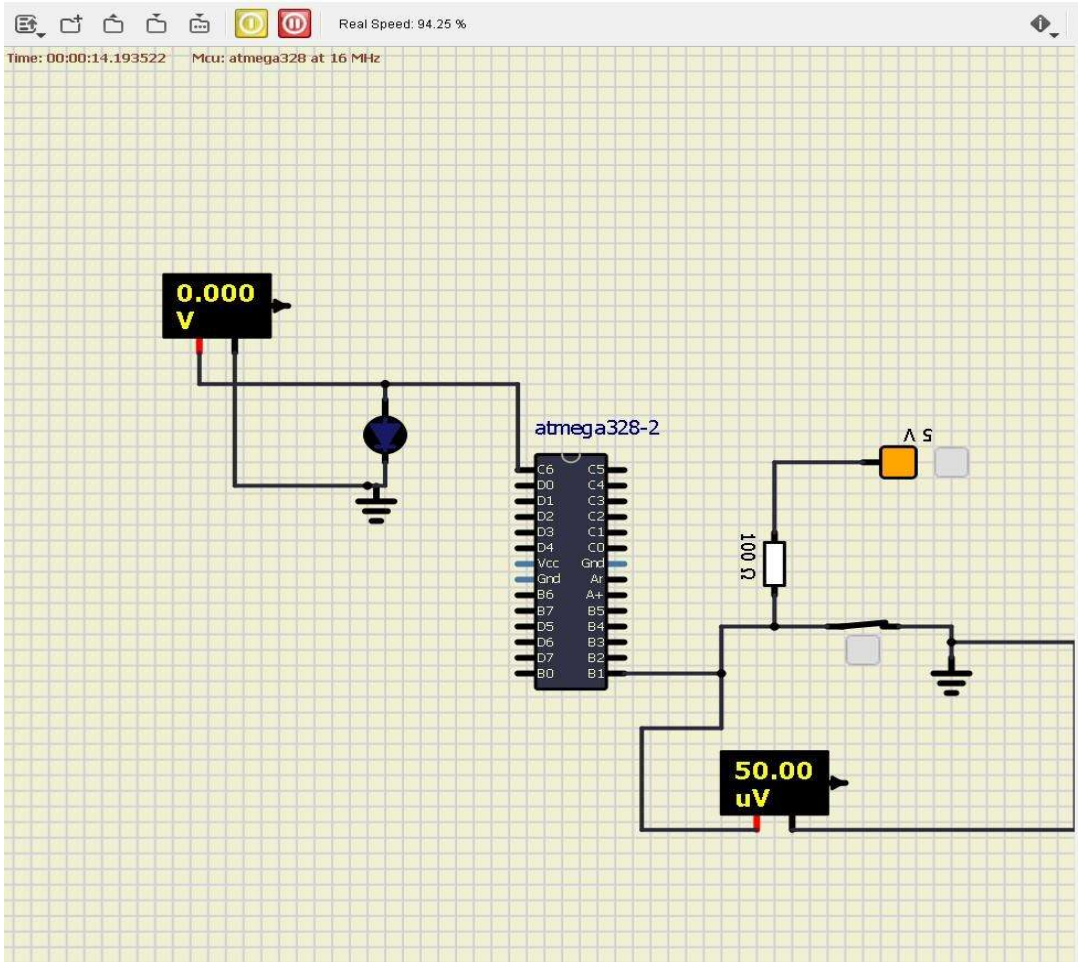
Flow Diagram of DOOR SENSOR

Given below is the circuit of Door sensor which is built in SimulIDE.



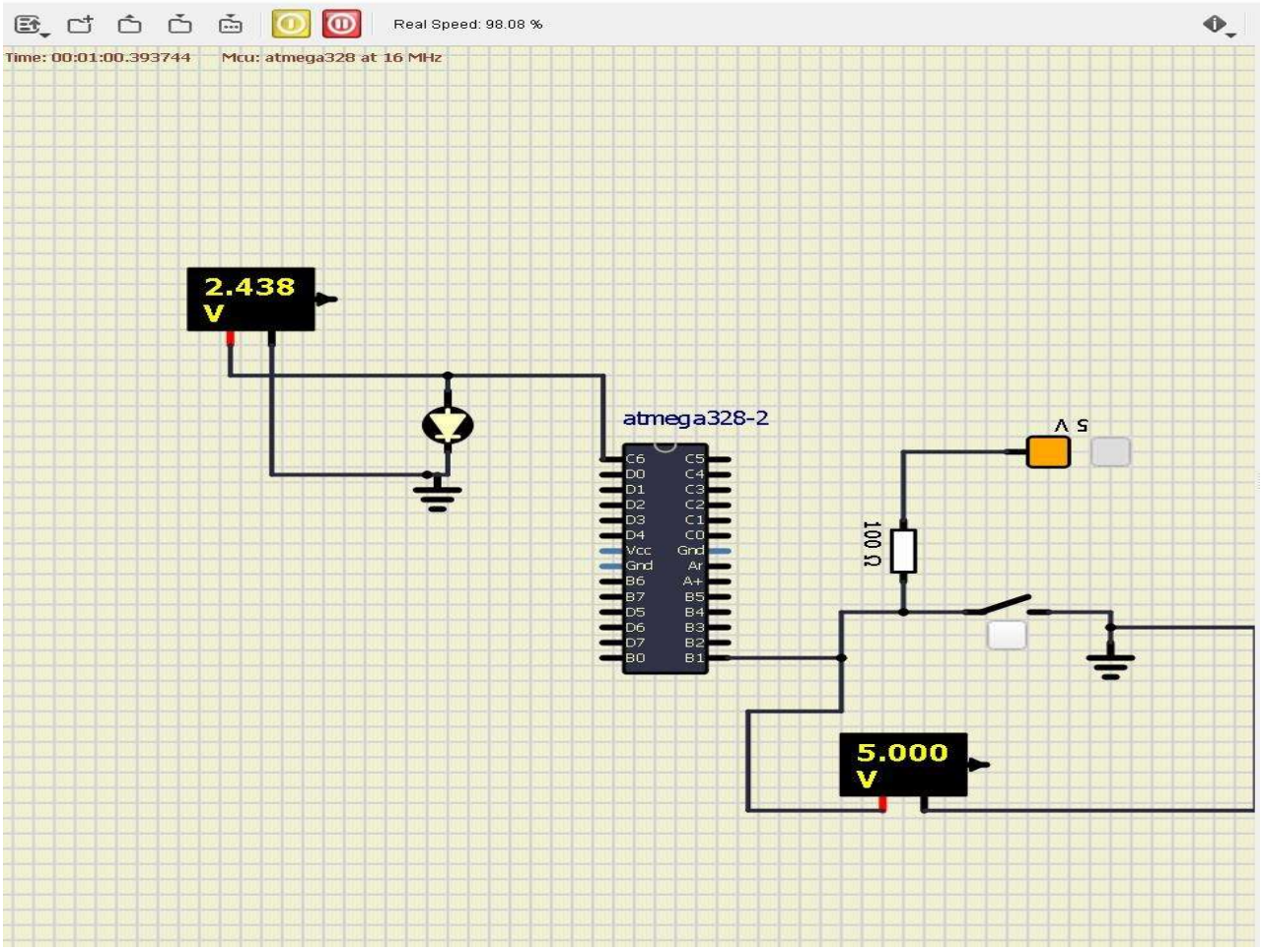
When door is CLOSED:

So when the door is closed i.e. the switch is off , the whole voltage from pin P1 at Port B will get grounded and hence no voltage will pass to Port C pin and thus LED will not blink . The output for the closed switch i.e. when door is close is given below:



When door is OPEN:

So when the door is Open i.e. the switch is ON ,the whole voltage will pass to Port C pin fthrough pin 1 of Port B and thus LED will blink . The output for the open switch i.e. when door is open is given below:



So when the door is closed i.e. the switch is off , the LED will not blink .

And when the door is Open i.e. the switch is ON , the LED will blink.

So we can use this door sensor as security system, they **let you know when someone is entering your home.**