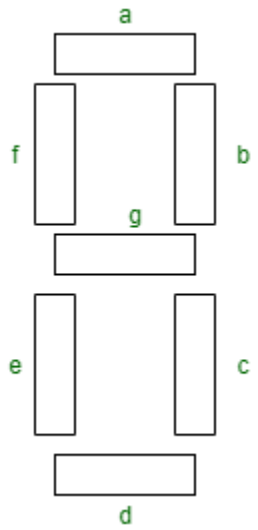
SEVEN SEGMENT DISPLAY USING ATMEGA 328

Introduction

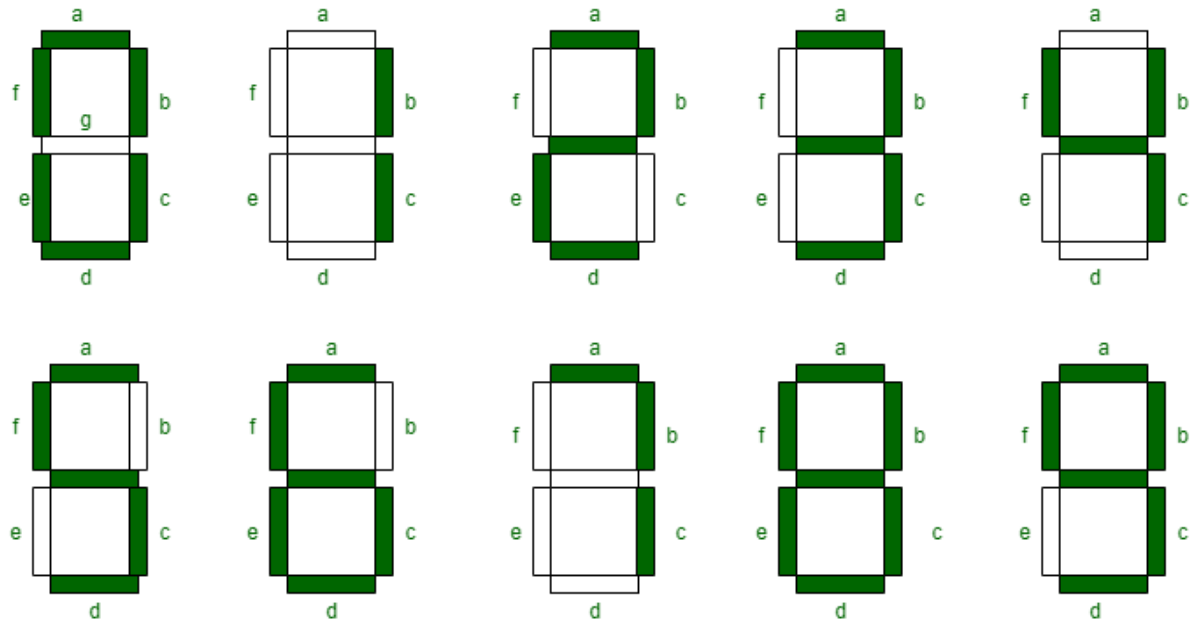
Seven segment displays are a type of output display device that can display data in the form of images, text, or decimal numbers as an alternative to more complicated dot matrix displays. Digital clocks, simple calculators, electronic metres, and other electronic devices that show numerical information all use it. It is made up of seven segments of light emitting diodes (LEDs) that are connected in a number 8 pattern.



Working:

As an alternative to more complicated dot matrix displays, seven segment displays are a sort of output display device that can display data in the form of graphics, text, or decimal numbers. It's used in digital clocks, basic calculators, electronic metres, and other electronic devices that display numerical data. It consists of seven segments of light emitting diodes (LEDs) connected in a number eight pattern.

As a result, for each decimal digit that requires light emitting diodes (LEDs), Boolean expressions are ON or OFF. 6, 2, 5, 5, 4, 5, 6, 3, 7, and 6 are the number of segments utilised by the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. Different types of microcontrollers are useful to connect with these other devices, such as switches, keypads, and memory, because seven segment displays must be controlled by other external devices.



Types:

There are two sorts of seven segment display configurations: common anode display and common cathode display, depending on the application.

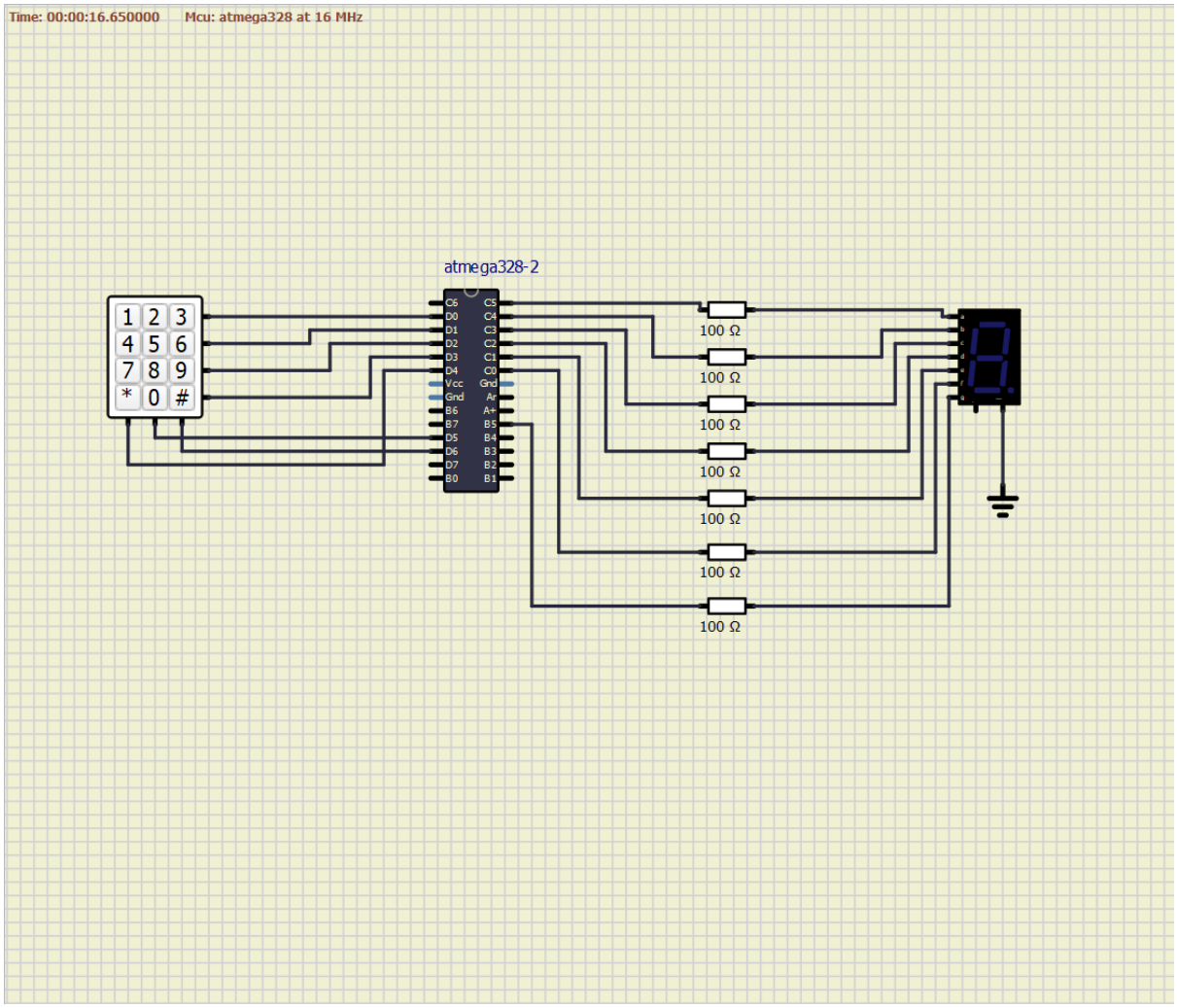
All of the cathode connections of LED segments in common cathode seven segment displays are linked to logic 0 or ground. Through forward bias the various anode terminals a to g, we apply logic 1 through a current limiting resistor. In a common anode seven segment display, all of the LED segments' anode connections are wired to logic 1. We apply logic 0 to the cathode of each segment a to g through a current limiting resistor. Because logic circuits may sink more current than they can source, common anode seven segment displays are more prevalent than cathode seven segment displays.

Applications :

- Digital clocks
- Clock radios
- Calculators
- Wristwatchers
- Speedometers

- Motor-vehicle odometers
- Radio frequency indicators

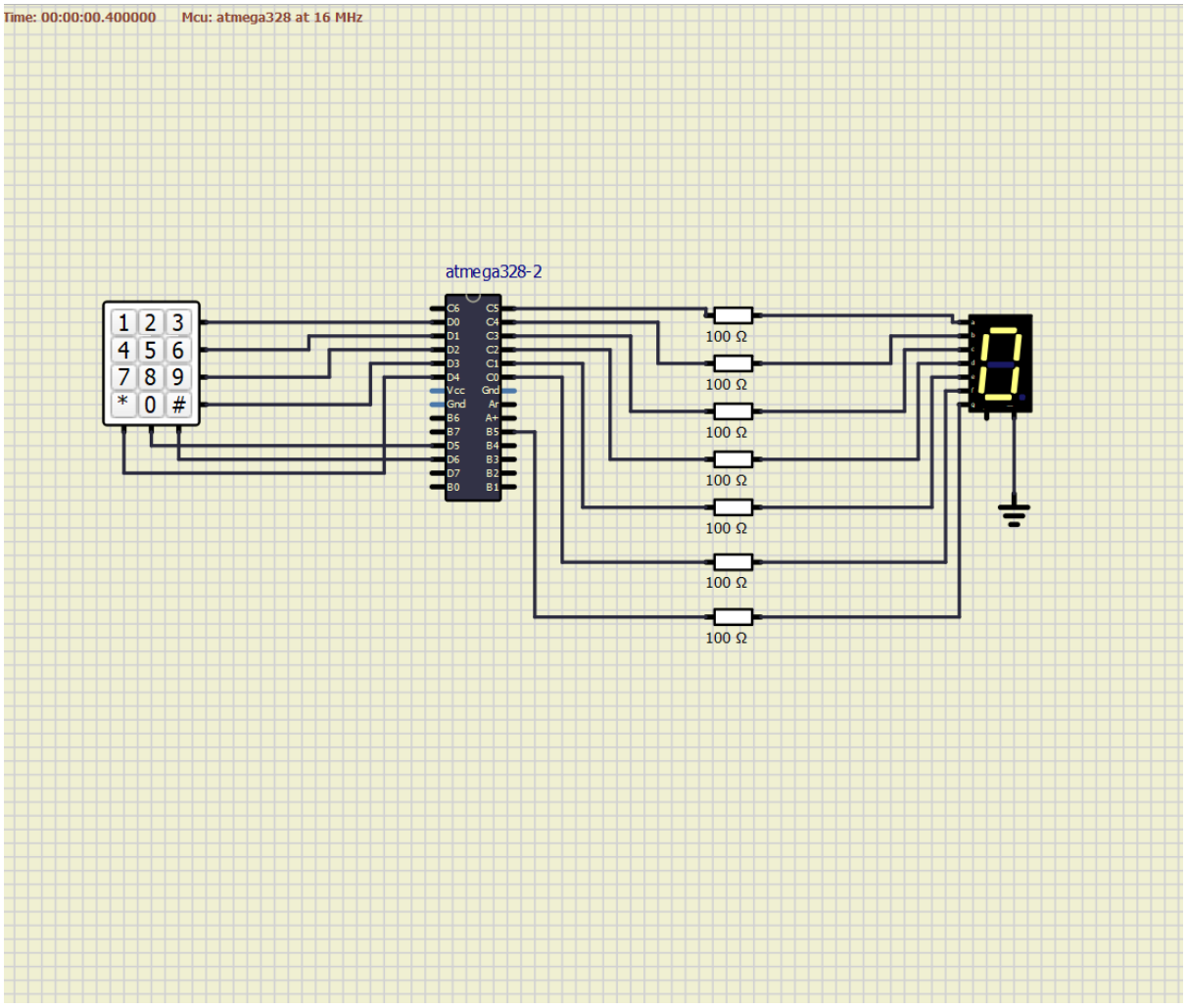
Circuit diagram :



Explanation :

Here Atmega 328-2 is used,a keypad is connected to atmega pins by using the connecting wires and then atmega is connected to several resistors of 100 ohm and then they are individually connected to a seven segment display and then it is grounded.

Output:


Time: 00:00:00.400000
Mcu: atmega328 at 16 MHz
atmega328-2
1 2 3
4 5 6
7 8 9
* 0 #
100 Ω
100 Ω
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