Seven Segment Display through AVR-Assembly

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Contents

***Abstract*—The objective of this manual is to show how to control a seven segment display through the AVR-Assembly.**

1 Components

Component	Value	Quantity
Breadboard		1
Resistor	≥ 220Ω	1
Arduino	Uno	1
Seven Segment Display	Common Anode	1
Jumper Wires		20

TABLE 0

2 Controlling the Display

1. Complete Table 1 for all the digital pins using Fig. 1.

Port Pin	Digital Pin
PD2	2
PB5	13

TABLE 1

2. Make connections according to Table 2.

Problem 2.1.

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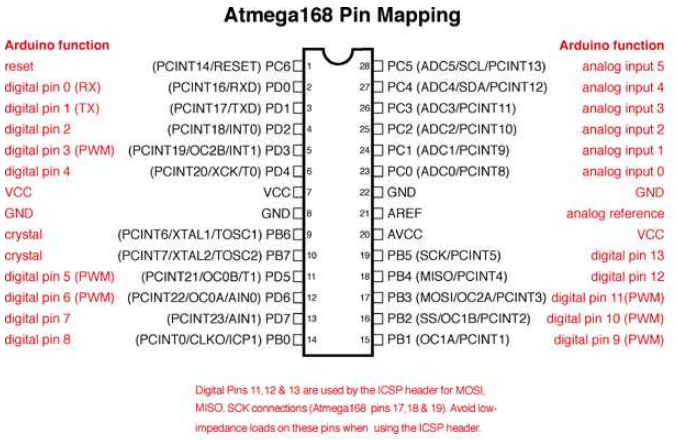

Fig. 1

Arduino	2	3	4	5	6	7	8
	PD2	PD3	PD4	PD5	PD6	PD7	PB0
Display	a	b	c	d	e	f	g
2	0	0	1	0	0	1	0

TABLE 2

Problem 2.2. The output of Problem 2.1 can be explained by Table 2 below. Complete Table 2 for all numbers between 0-9. Use this information to display the numbers from 0-9 .

2.1 Arduino

The Arduino Uno has some ground pins, analog input pins A0-A3 and digital pins D1-D13 that can be used for both input as well as output. It also has two power pins that can generate $3.3V$ and $5V$. In the following exercises, only the GND, $5V$ and digital pins will be used.

3 Display Control through Hardware