

CMPE 453, Lab-1, Section-2

Binary Game of the Leds and 7-segment Display

- 1- Set up a circuit with breadboard, Arduino-Uno, 7-segment display, 220Ω resistors (11), 3 LEDs and jumpers.
- 2- Program ATMEGA328p microcontroller by using **C programming on Arduino IDE**. Provide the connection between your computer and Arduino board. When your program runs, **it should repeat the following cycle:**

For each cycle, send a random number between 7 and 0 to 7-segment display so that it displays that number for **3 seconds**. The number on 7-segment display will be simultaneously played by the Leds as a binary light game. For instance, if the number on the display is:

- 4 → Leds should be On-Off-Off
- 3 → Leds should be Off-On-On
- 0 → Leds should be Off-Off-Off