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Lab 2
Section 1450
Pseudocode

Lab2b

```
BEGIN lab2b
   while(true)
      reset(switch_ports)
      switch_ports = read(switches)
      leds.set(switch_ports)
   end while
END lab2b
```

lab2c

```
BEGIN delay10ms
   count = 0;
   delay = false;
   IF xmega clock asserted
   THEN
      IF count == 10000
      THEN
         count = 0;
         delay = true;
      ELSE
         count++;
         delay = false;
      ENDIF
   ENDIF
   RETURN delay
END delay10ms

BEGIN lab2c
   count = 0;
   output = false;
   WHILE true
      timer = delay10ms();
      IF timer == true
      THEN
         IF count == 19
         THEN
            count = 0;
         ELSE
            count++;
         ENDIF
         IF count < 10
         THEN
            output = true;
         ELSE
```

```
            output = false;
         ENDIF
      ENDIF
   END WHILE true
END lab2c
```

```
lab2d
BEGIN game
   LET state0 = "10000001";
   LET state1 = "01000010";
   LET state2 = "00100100";
   LET state3 = "00011000";
   LET state4 = "00000000";
   LET states = {state0, state1, state2, state3, state2, state1, state0, state4};
   LET c_state = state4;
   LET S2 = the port for S2;
   LET red = RGB(255, 0, 0);
   LET green = RGB(0, 255, 0);
   LET res = port D;
   LET clock = delayed board clock;
   LET count = 0;
   WHILE true
      IF clock && !S2;
      THEN
         IF count == 7;
         THEN
            count = 0;
         ELSE
            count++;
         ENDIF
      ENDIF
      c_state = states[count];
      IF S2
      THEN
         IF c_state = state3;
         THEN
            res = green;
         ELSE
            res = red;
         ENDIF
      ENDIF
   END WHILE true
END game
```