Blinkety-Blink

Objective: Give you some practice with digital IO.

Overview: You will create a project with 3 LEDs hooked up to D2, D1 and D0, and 2 switches, hooked up to A0 and A1.

The 3 LEDs will initially be all LOW. Each time the A0 switch is pressed, the sequence of LEDs will change as shown here. Once 7 is exceeded, start over.

Status	D2	D1	D0
0	LOW	LOW	LOW
1	LOW	LOW	HIGH
2	LOW	HIGH	LOW
3	LOW	HIGH	HIGH
4	HIGH	LOW	LOW
5	HIGH	LOW	HIGH
6	HIGH	HIGH	LOW
7	HIGH	HIGH	HIGH

A1 pressed   A1 pressed   A1 pressed   A1 pressed

Each time the A1 button is pressed, it will toggle the direction of change.

Hints: Since LOW == 0 and HIGH == 1, we can look at status in base 2 — 000, 001, 010, 011, 100, 101, 110, 111 — and just extract the relevant digits using our old friends, & and >>

Deliverables: Your code, uploaded, and a demo during help sessions/office hours. If a demo cannot be arranged due to time constraints, a video upload is possible.