Week 12 Lecture 1

November 13, 2017

- **Stretch 63 (Pg. 108):**

  - **Solution:** Start with CCCMMM on the left of the board and keep track of each new situation and whose turn it is to move.
  - 1) Move 2C to the right results in CMMM CC
  - 2) Move 1 C to the left results in CCMMM C
  - 3) Move 2C to the right results in MMM CCC
  - 4) Move 1C to the left results in CMMM CC
  - 5) Move 2M to the right results in CM CCMM
  - 6) Move 1C1M to the left results in CCMM CM
  - 7) Move 2M to the right results in CC CMMM
  - 8) Move 1C to the left results in CCC MMM
  - 9) Move 2C to the right results in C CCMMM
  - 10) Move 1C to the left results in CC CMMM
  - 11) Move 2C to the right results in CCCMMM

- **Stretch 64 (Pg. 108):**

  - **Solution:** To verify the sentence, you need to turn the E over to make sure that an even number is on the other side. The F does not need to be looked at since it has no vowel. The 4 does not need to be turned over. The sentence does NOT say "if even then vowel" (that's the converse and not always true). The 5 does need to be turned over to test the contrapositive "if not even then not vowel". If the flip side of 5 is a vowel, this contradicts the statement so it needs to be checked.

- **Stretch 52 (Pg. 106):**

  - **Solution:** Express the three numbers as n, n + 1, and n + 2. Clearly, one of these numbers must be even (if n is odd, n + 1 is even. If n is even, so is n + 2). Furthermore, one of the numbers is divisible by three (look at any three consecutive numbers and convince yourself).