1. **Index Cards (5-8 minutes)** – We will pass out index cards in which the students will write their names, id numbers, and a question they have pertaining to 2401 course related material. This will serve two purposes:
   a. We can take role in order to determine who is missing from the workshop.
   b. We can address weaknesses in the students’ knowledge with respect to last semester.

   When all the index cards have been returned, one question will be answered regarding the previous weeks index cards. The question will be answered in a Socratic fashion, thereby allowing the students to discover the answer.*

2. **Simple Recursion (20 minutes)** – The students will be given a problem to solve with recursion. The problem will require students to exhibit their knowledge of recursion. First, the students will attempt to solve the problem individually, and then be broken into groups of three. Roles will be assigned to the groups (recorder, understanding checker, time keeper) and they will be informed that one person form the group will be chosen at random to explain how their group solved the problem. The problem will ask them to:
   a. Build a recursive method which as its parameter, a character, and two integers (width and height).
   b. The method will have to print to the console a width-by-height rectangle built from the character the method was passed. For example, if the char value is ‘O’ and the integer values are: width = 5, height = 5. The resulting output should be:
      
      OOOOO
      OOOOO
      OOOOO
      OOOOO
      OOOOO
      
   c. Once time has expired, select a student and have them display their solution and explain why they think that is the best solution.

3. **Tracing simple Recursion (15 minutes)** – The students will already be in groups and presented with the following segment of code. In groups, they will be asked to trace the code by hand. The students must be able to explain what the segment does as well as be able to trace the method given some parameters. Students will be chosen at random to trace the input with parameters. The a copy of the code should be given out and given to each group, the roles assigned previously are still in affect.

   The code follows:
   ```java
   public static int mysteryMethod(int[] items, int target) {
       return mysteryHelperMethod(items, target, items.length);
   }
   ```
private static int mysteryHelperMethod(int[] items, int target, int size) {
    if (size == 0)
        return -1;
    else if (target.equals(items[size - 1]))
        return size - 1;
    else
        return mysteryHelperMethod(items, target, size - 1);
}

4. We will use the rest of the workshop time to ask the students to reflect upon their performance. We will ask them to discuss among their group:
   a. What can they do better next time they work in teams.
   b. What they liked about their teammate’s participation and team skills.

* The question will be chosen after the first set of the index cards are collected (Week of January 22nd). The most relevant question to either recursion or Arrays will be chosen and used in all sessions.