CSC 2259 Session n Worksheet 02/17/2020	John Brasher SI Sessions: Sundays & Mondays @ 6:30 – 8:00 PM [PFT 1212] Office Hours: Mondays & Fridays 12:30 – 2:30 PM

1) We want a program to find if H ⊆ W, where H and W are given to the program as the arrays H and W respectively, and n is the size of the arrays.

    a. Does the below (Java) code work? If not, find an (H, W) – pair such that the code gives the wrong answer.

```
for (int i = 0; i < n; i++) {
    if (H[i] == 1 && W[i] == 0)
            return false;
    else
            return true;
}
```

    b. How can we change the code so that it correctly finds if H ⊆ W?

    c. Provide an improved version of our new working code. For every change made, state explicitly why it improves the code.

2) Using the improved code from #1 part c, show the loop iterations for H = {a, d, e} and W = {a, b, d, e}. What if H = {a, b, c}?

3) Using the improved code from #1 part c, find the efficiency and the #((H, W) – pairs that return false after 1 iteration) where n = 5. What is the general form of those (H, W) – pairs?

4) Repeat #3 for (H, W) – pairs that return false after 2, 3, 4 and 5 iterations, and those that return true.

5) Verify that we have accounted for each possible (H, W) – pair possible in #3 and #4.