Coding & Algorithms

Silver

These Silver questions extend algorithm knowledge to debugging and comparing sequences.

Name: _____ Date: _____

Section A: Algorithms & Debugging

1. What does it mean to "debug" a program?

2. An algorithm to make toast says: "put bread in toaster, wait, eat toast." What step is missing?

3. Why might an algorithm fail if the steps are in the wrong order?

4. Explain why it's useful to test an algorithm before using it.

5. Give an example of a "bug" that might happen in an everyday instruction, not on a computer.

Section B: Sequences & Loops

1. Write an algorithm using a loop to describe brushing all your teeth (imagine brushing each tooth is one step).

2. Explain why a loop is more efficient than repeating the same instruction many times.

3. If a loop repeats "clap once" 5 times, how many claps happen in total?

4. Explain the difference between a sequence and a loop.

5. Why might a computer programmer use a loop to display a pattern of stars?