University of Toronto, Department of Electrical and Computer Engineering
ECE 1724-F1 — Performant Software Systems with Rust

Quiz 1 — Answer Key

Wednesday, September 23, 2026

1. Ⓑ **Shadowing can change the type.**

The second binding is the length `3`, of type `usize`; the third is `4`. Each `let` introduces a new binding, so neither `mut` nor a fixed type across these bindings is required. (Lecture 3: scope, shadowing, and static types; Book 3.1.)

2. Ⓓ **A block expression can also modify a variable.**

The statement `x += 1` changes the outer `x` to `4`. The block's final expression evaluates to `8`, which is bound to `y`. (Lecture 3: mutability and expressions; Book 3.1 and 3.3.)

3. Ⓐ **An if condition must be Boolean.**

Rust does not treat a nonzero integer as `true`. The condition has an integer type, so the program fails to compile and prints nothing. (Lectures 2–3: type errors and `if` expressions; Book 3.5.)

4. Ⓒ **Array initialization and tuple access.**

`[2; 4]` creates four elements, each equal to `2`. Updating index `1` changes only the second element. The tuple is therefore `(2, 5)`, accessed using `.0` and `.1`. (Lecture 3: arrays and tuples; Book 3.2.)

5. Ⓓ **Moves are not reversed by the end of a scope.**

The assignment moves the string from `first` to `second`. The inner block's end drops `second`; it does not restore `first`. The final use of `first` is a compile-time error. (Lecture 4: moves and scope; Book 4.1.)