3.10 Similarities: Both if and while use conditions to control execution.Differences: if executes once if true; while repeats as long as true.

3.11 What Happens: In Java, integer division (e.g., 5 / 2) gives 2—fractional part is truncated.

Avoid It: Cast to float/double (e.g., (double)5 / 2 gives 2.5).

3.12Sequence: One statement follows another (e.g., if then print).Nesting: One inside another (e.g., if inside while).

3.13First 100 Integers: for loop—fixed range (e.g., for i in 1 to 100, sum += i).Arbitrary Integers: while loop—runs until condition (e.g., while input != stop, sum += input).

3.14Preincrement: ++x—increments first, then uses value.Postincrement: x++—uses value, then increments.

3.15 a) Error: Extra semicolon after if. Fix: Remove ; after if (age >= 65).

b) Error: total uninitialized. Fix: int x = 1, total = 0;.

c) Errors: No braces, x undefined, total uninitialized. Fix: int x = 1, total = 0; while (x <= 100) { total += x; ++x; }.

d) Error: Infinite loop (++y increases y). Fix: Use --y to decrease y