

Topic 1.1: Introduction to Algorithms, Programming, and Compilers

Guided Notes — Topic 1.1

Fill in the blanks during the slide presentation. Use exact terms from the slides.

Section 1 — Algorithms and sequencing

An _____ is a step-by-step process for completing a task or solving a problem. It can be written in plain _____ or drawn as a _____.

_____ defines the order of the steps. The steps are completed _____, and changing the order can change the result.

Section 2 — From code to a running program

Code can be written in any text _____, but programmers often use an integrated development environment, or _____, because it provides tools to write, compile, and run code in one place.

A _____ checks the code for certain errors. Any error the compiler detects must be _____ before the program can _____.

A first Java program looks like this:

ClubWelcome.java

```
public class ClubWelcome {  
    public static void main(String[] args) {  
        System.out.println("Welcome to the Riverside Coding Club!");  
    }  
}
```

Section 3 — Three kinds of programming errors

1. _____ **error.** A mistake where the rules of the language are not followed (for example, a missing semicolon). It is detected by the _____, so the program will not run until it is fixed.
2. _____ **error.** The program runs but behaves incorrectly. It is found by _____ the program with specific data to see if the output is what you expected.
3. _____ **error.** A mistake that happens during _____ and usually causes the program to stop abnormally. A run-time error caused by an unexpected condition the compiler did not catch is called an _____.

Quick check

A missing semicolon is caught _____ the program runs. A program that prints the wrong total but does not crash has a _____ error.