

## type of errors in programming

**programming errors** are classified into three main types: syntax errors, runtime errors, and logic errors.

**Syntax errors** happen when the rules of the programming language are violated. These errors are detected by the compiler or interpreter before the program runs

**Runtime errors** occur while the program is running. These errors usually happen due to unexpected input or conditions that the program cannot handle.

### Examples:

Division by zero, File not found and Accessing an invalid index in a list

**Logic errors** occur when the program runs without crashing but produces incorrect or unexpected results due to a flaw in the logic

### Examples:

Using the wrong formula for calculation, Incorrect conditions in if statements and Misplaced loops or operations

### Other Types of Errors:

**Semantic Errors** When the syntax is correct, but the meaning of the statement is not what the programmer intended.

**Compilation Errors** General term for errors caught by the compiler, which may include syntax and semantic errors.